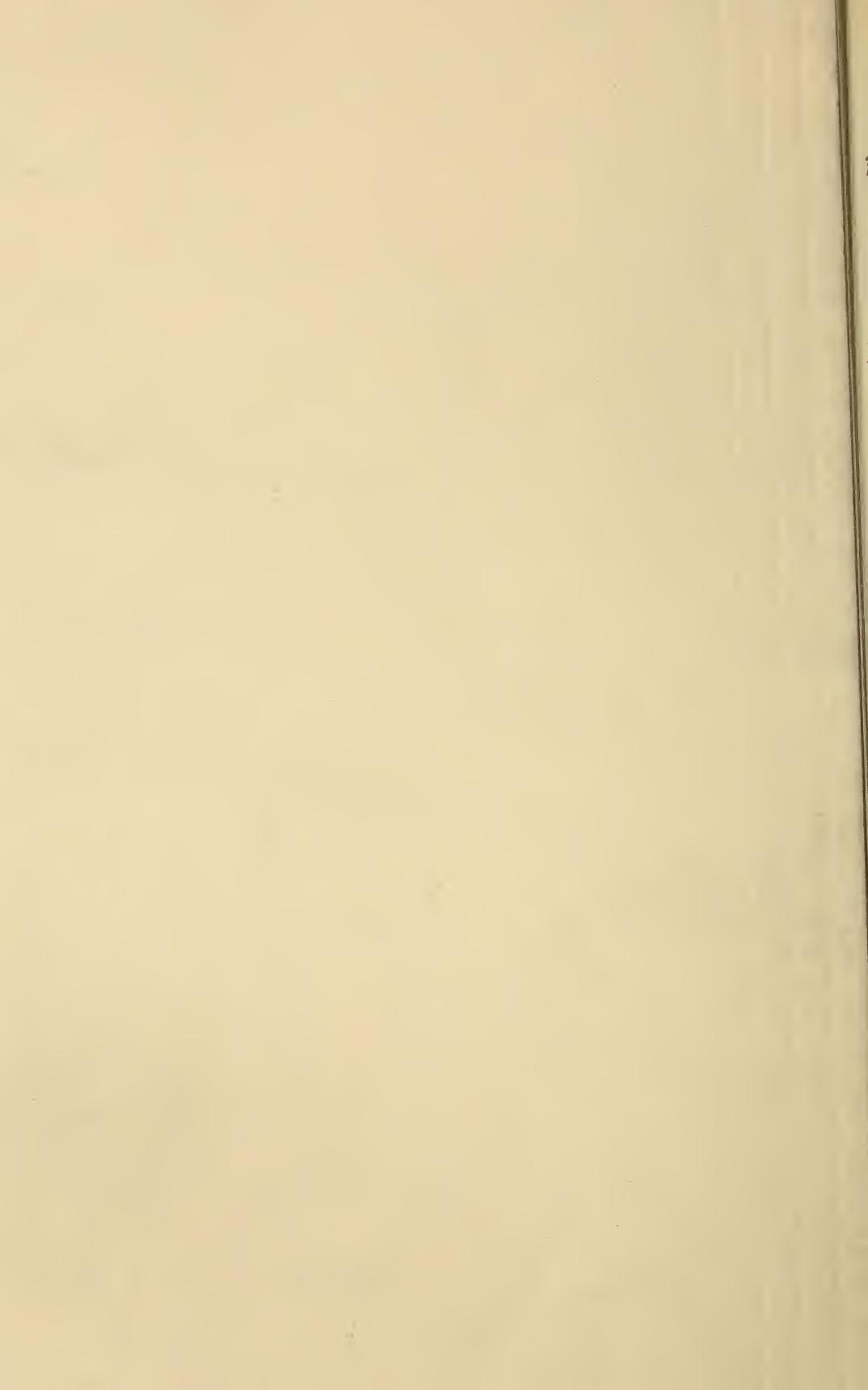


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GLEANINGS IN BEE CULTURE

A JOURNAL
DEVOTED
TO BEES.
AND HONEY.
AND HOME.
INTERESTS.

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STRAW STRAWS FROM DR. C. C. MILLER.

ULR. GUBLER, who writes the monthly counsels for beginners in *Revue Internationale*, says he has found by years of trial that bees winter better in hives not painted. I believe Doolittle stands on the same ground. I want covers painted, but not bodies.

THE Busy Bee for October is devoted almost entirely to sweet clover, the shears being freely used on GLEANINGS for that purpose; and, as showing progress, the present attitude of GLEANINGS is contrasted with that of five years ago, when an editorial said, "Sweet clover is not a success with us for fodder or feed at all, although stock will eat it to some extent if cut just at the right time."

LAST YEAR I said, "If paraffine is left untouched by bees, why not apply a coating of it to ends of top-bars and other points we don't want glued?" Ignoring that first word "if," an item has been going the rounds of the German bee-journals that painting with paraffine would prevent gluing. There is now no "if" in the case. Bees will daub propolis on paraffine. Selen Sie, meine guten deutschen Freunde?

A WRITER in one of the German bee-journals thinks bee conventions will be better if discussions are held with wine-cup in hand. It doesn't work that way over here. At Buffalo, a man who had evidently had the wine-cup or some other cup a bit too much in hand, seemed to be trying to hinder useful discussion. His friends should put a seal on his lips in conventions hereafter, or else keep close watch on what passes his lips before coming.

"DON'T FORGET that very few people get tired of first-class honey; and, above all, remember that almost any one will tire of poor, thin, unripe honey." That's what Dan White said, p. 767, but it's time it was said over again. That story of his almost makes me want to raise extracted honey so I can peddle it. [Yes, indeed. This is one of the truths that should be passed around. If it could only take wing like an unmitigated malicious lie, it would do the world a lot of good.

There is too much slipshodness in harvesting and marketing honey.—ED.]

I ARISE TO REMARK in a very subdued tone, that, much as I like the groove in the bellows-board, I don't think it's quite equal to a $\frac{1}{4}$ x $\frac{1}{8}$ -inch cleat. [Perhaps. But the groove looks so much neater, and is so much easier to apply, from a manufacturer's point of view, that the little cleats could hardly be considered. But for the life of me I can not see why a groove is not just as good if made deep enough. Possibly ours are not deep enough.—ED.]

I DON'T KNOW for sure just why sections this year should be half an ounce lighter than last. Something might be due to the fact that empty sections were furnished more freely than last year. July 1 there was an average of nearly four supers to each colony in one apiary. But the honey-flow has much to do with the weight of sections. Sometimes the upper two-thirds of a section will be sealed, the section being rather thin, then comes a change in the harvest, and the lower third looks bulged.

ACETYLENE GAS. After reading what A. I. Root said about this, I determined to have it in my house just as soon as it could be had. According to the *Cosmopolitan*, however, it is dangerously explosive. I don't believe I want it. [Yes, and from recent reports in other periodicals it would seem as if this new gas could never be used for domestic lighting. By the way, doctor, the members of the Root firm are just equipping their houses with electric lights, the current coming from the factory. If you will move down close beside us we will give you some of the same sort of "juice." —ED.] [Doctor, see p. 791.—A. I. R.]

SOME TIME within the past five years a smoker-hook like that on p. 779 was sent me, asking about patenting it. I said it couldn't be patented—old. I wish I could remember where it was first described—was it in GLEANINGS? At any rate I used it years and years ago, but got tired of it. Still, some will like it. [Yes, I am quite certain that the hook was illustrated in GLEANINGS; but no enterprising manufacturer at that time probably thought enough of it to have it supplied with his regular stock. It does not stand in the way if one does not care to use it; and on the

other hand it may be a very great convenience. I have been trying it a little myself, and must say I like it.—ED.]

OH THE DROUTH! Three months ago the earth was a mat of white clover; to-day, Nov. 1, you must get down on hands and knees to find it, and some places none then. [I am afraid, doctor, there is a good deal of truth in what you say; and I am afraid, too, that the condition you observe will be found generally over the country. Whether that will have the effect of cutting down the growth of clover next summer, remains to be seen. We have just had two or three days of rain—raining almost constantly. It always rains, you know, during election. Possibly the rains may help to revive the drooping spirits of the clovers now almost out of sight, even if it does not those of some of the politicians, surely buried for ever out of sight.—ED.]

I AGREE with you, Mr. Editor, p. 766, that bees put more wax in combs in a dull flow, but I always supposed that such wax was the regular article, and I never heard proof that any of it was lugged in from outside on their legs. [It may be that bees do not use "gathered" wax to thicken combs in dull seasons. But we do know that they will darken a nice light comb put up next to a dark one; and the only way we can account for this darkening is on the ground that the bees borrow wax from the old comb and put it on the new. I should be more inclined to believe that bees follow no invariable rule—that wax is wax to them, whether it be the regular article coming in the regular way or that which has been borrowed or stolen.—ED.]

THE GERMAN BEE-KEEPERS' Central Association at present numbers about 25,000 members. As far back as I can remember, no bee-keepers' society in this country ever reached that number. [No, nor anywhere near it; and yet the U. S. B. K. U. ought to have at least that many names to back it up. Why is it that there is such apathy on the part of bee-keepers? Only the other day I received a letter from a man who thought we ought to do less talking and do more work in the matter of fighting adulteration; but I am almost certain he is not a member of the U. S. B. K. U. Many of these fellows who talk about "action" and "less talk" are just the very ones who grumble, and yet never would think of putting their shoulder to the wheel themselves.—ED.]

WHILE HAULING bees home, a little episode broke in on the even tenor of my life. I made a rack, and put it on top of a heavy wagon-box—springs under—31 colonies at a load. Unloading I stood on top and handed hives to Philo. When the last hive was left on the rack, extending over the hind end, my weight, together with the hive, overbalanced the rack, and it tipped. The hive lit on ground upside down; I fell on hive; rack fell on me; rack wasn't hurt a bit. [It is too bad, doctor, there was not a Kodaker around to preserve the whole situation. If you will agree to go through with the performance again I will promise to take a series of snap shots, even if

I have to go clear to Marengo. But say, doctor, I should like to know what was the temper of the bees, and possibly of *yourself*, about the time you all three came down "ker slap."—ED.]

REPLYING to your question, p. 767, I didn't cushion down the paraffined paper. Didn't need to. Bees glued it down. The only point I made was that bees would put glue freely on a paraffine surface, in contradiction of the claim made in GLEANINGS for 1896, p. 756, that bees dislike paraffine and are not inclined to deposit propolis on it. [If you had cushioned down the paper there would have been less propolis, I am almost sure, doctor. Mr. Danzenbaker insists that paraffine paper should be squeezed down tight to the surface of the sections. If there is a little crack or air-gap, as there certainly must have been between the sections and the paraffine paper that you put over your sections, propolis would certainly be put in to fill up the spaces. But I think we might just as well admit that bees do not dislike paraffine paper as much as we thought they did; and we certainly can not now say that they will not gnaw it under some circumstances.—ED.]

THAT FOOTNOTE, p. 766, seems to help the boom for figwort, although it was hardly so intended. But when you say, "Our own experience, so far as I can remember," that phrase, "so far as I can remember," makes your cultivation of the plant only a memory. Please tell us how much land you have now occupied with figwort, and how much less with sweet clover. In plain words, is it advisable to occupy good land with figwort? [Figwort grows wild in our river-bottom land, or it did do so a few years ago when we were specially interested in studying this plant. The only point I tried to make was that there is more honey—considerably more of it—to a single stalk of figwort, than in a stalk of sweet clover. In answer to your question I would say that it would not pay to try to grow either one on good ground. No, we are not growing figwort on our land, neither are we trying to grow sweet clover; but, unlike figwort, it will of its own sweet will, spring up and thrive in all waste places. No scythe on our premises dare molest it.—ED.]

IN REPLY to your implied question on page 766, Mr. Editor, I don't know just how many days' work was involved in getting that crop of 17,150 lbs. of honey; but I know that two of us did all the work except perhaps what might be equivalent to two months' work. Neither did I spend my whole time at it, for I furnished weekly to bee and agricultural journals some half a dozen columns of stuff about bees—in fact, not such a very light year's work at writing alone. But I had to get up at three and four in the morning through a good part of the harvest; and if I'd been less young and tough I couldn't have stood it. [I do not understand you, doctor. You say, "I know that two of us did all the work except perhaps what may be equivalent to two months' work." Do you mean that you practically harvested that whole crop, two of you,

in the equivalent of two months? or that two of you spent ten months, leaving out the other two months which you apparently except? or what do you mean? It would be very interesting indeed to know approximately just how many days it took to harvest that crop; and if two of you did it practically in 60 days, it was a big feat indeed. It is possible that many bee-keepers are spending too much time in getting a given crop of honey; and if you have broken the record, let us hold it up high until some one else breaks it.—ED.]

G. M. DOOLITTLE IN HIS APIARY.

Testing Honey from Deep-cell Foundation.

BY ERNEST R. ROOT.

After the Buffalo convention I told Mr. Doolittle that I should probably call upon him in a week or so. But circumstances made it

this deserved title; and before I go further I am going to give you right here what Mr. H. has to say about our friend:

Doolittle was certainly what GLEANINGS called him, the "uncrowned king of the Buffalo convention." I think no one will be offended if I say that I think he was the best speaker there was there. No one who has simply read his staid, sober, matter-of-fact articles in the bee-journals would dream of the manner in which he can flavor his speeches with anecdote and illustration. For instance, he was telling how some old man was working himself all but to death that his children might not be compelled to begin at the foot of the ladder as he had done. Mr. Doolittle asked him if he had not enjoyed himself when he began house-keeping in a humble way, and he and his young wife had worked cheerfully and happily as month by month they added to the comforts of their home. The old man was silent a minute and then admitted, "They were the happiest days of my life." "Would you rob your children of this happiness?" asked Mr. Doolittle. I don't suppose Mr. Doolittle knew it, but it brought tears to my eyes, so clearly did it bring back those happy days when wife and I began house-keeping in a humble home built by my own hands, and "worked cheerfully and happily as month by month we added to the comforts of our home."

Mr. Salisbury and I oiled up our wheels the night before, and the next morning donned



DOOLITTLE AND SALISBURY SAMPLING COMB HONEY FROM DRAWN FOUNDATION.

necessary for me to change my plans; and the consequence was, it was not till the 5th or 6th of September that I found it possible to make my proposed visit. Having made a tour in and around Seneca Co. and Seneca Lake, Tompkins Co., and Cayuga Lake, I made my way northward to Syracuse, intending at that point to ask Mr. Frank A. Salisbury, our branch manager, to accompany me out to see "the uncrowned king of the Buffalo convention." And this reminds me that the editor of the *Review*, Mr. Hutchinson, fully indorses

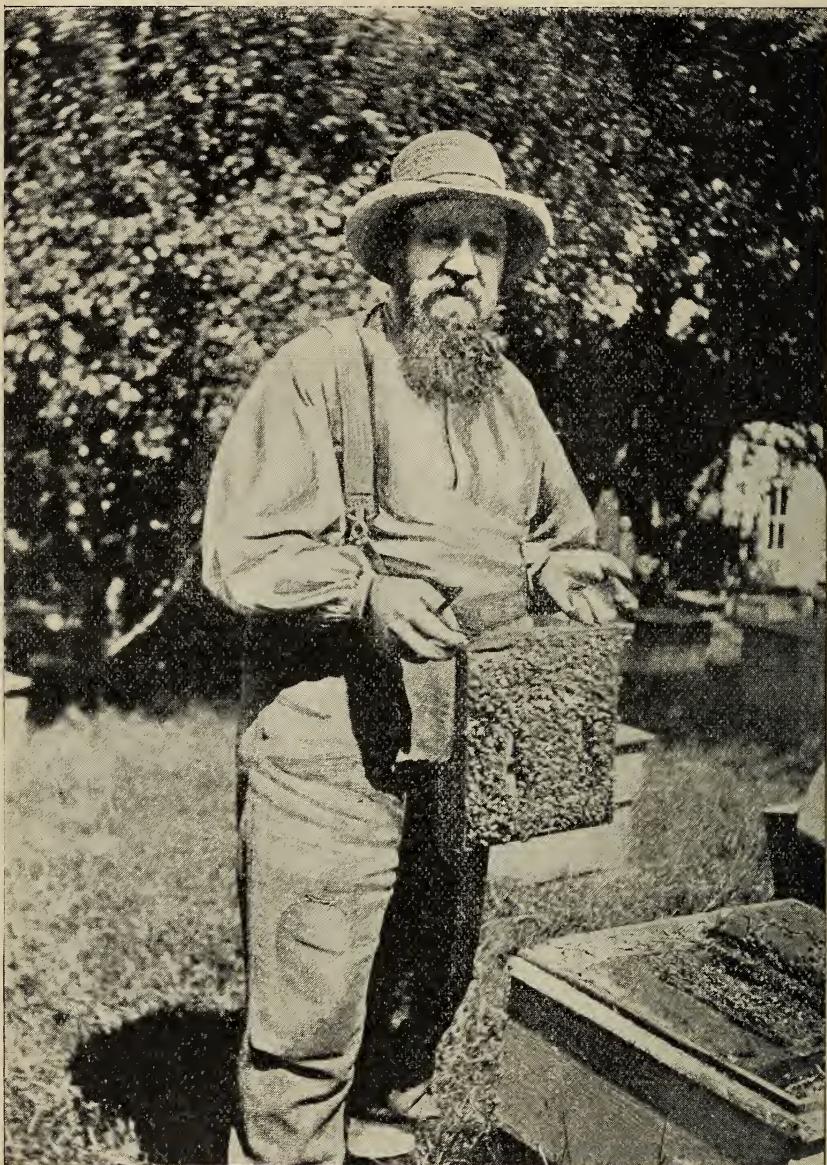
our knickerbockers, golfs, and sweaters, preparatory to a twenty-five-mile ride to Borodino. The morning was all that could be asked for; and then began the heavy grinds up the hills, followed by almost mile-a-minute coasts down the other sides of the grades. Frank knew better than I how to take advantage of the hills about Syracuse, and he certainly knew how to let his wheel "go gallagher" down these long coasts. I did not dare to let mine out at such break-neck speeds; and the consequence was, when we came to a level

stretch I had to do some hard pedaling to make up.

On we sped, over hills and valleys, till we came to Rose Hill, where that great seedsman, Mr. F. B. Mills, lives. Mr. M. has here an immense seed-farm, fine buildings, and beau-

delightful. I did not realize we were making such time till Mr. Salisbury called out, pointing over to the left, "There is Doolittle's!"

I had given our Borodino friend no intimation that we expected to call on him that day. Indeed, I was not sure he would be at home.



DOOLITTLE AND HIS FAVORITE FIVE-BANDED BEES.

tiful surroundings. But as we were in a hurry we did not stop.

Mr. Salisbury, ahead as usual, put his feet up on his coasters, and let his wheel go, and I did likewise. The long easy coast down the hill, almost flying through the air, was most

As he was away from the railroad I could not reach him by telegram the day before, and accordingly took my chances. With some doubts Frank and I, covered with dust and sweat, stalked into the yard, when who should meet us but the "king" himself? Instead of

the "crown," he had on an old straw hat and old clothes ready for work in the apiary.

"Well," said Mr. Doolittle cordially, "this is rather unexpected."

"All the better," I said. "We have caught you, not as you would be, perhaps, to receive company, but just as you are every day in the apiary." I told Mr. Doolittle that I had come to do some kodaking as well as to talk bees, and I asked if he would have any objections to my taking a photo of him just as he stood. "Not at all, sir; I am at your service."

We then walked over to his hive of five-banders that have the extra choice breeding-queen. Lifting a frame out he held it up before us and remarked, "How do those bees suit you?"

As he did so I took a shot. The large view accompanying shows him just as he stood. He had opened the hive without smoke, without veil, and the frame was pulled out in a way that would be regarded as a decided intrusion by some bees. But these great big yellow bees went right on with their work just the same, apparently, without observing it.

The lights and shades in the picture are rather strong, owing to the fact that Mr. D.'s apiary is in an orchard, and the hive before which he stood was in the open.

Mr. Doolittle does not believe in wearing fine clothes out among his bees, especially when he is not expecting visitors; and if you will look sharp in the bottom of the picture you will see he tucks his pants down his stockings, to keep out crawling bees. Many a man, possibly, would object strenuously to being "shown up" before the readers of GLEANINGS, in every-day attire; but Mr. Doolittle said he was not ashamed to be seen in work-clothes.

After we had looked at the beautiful bees, and heard Mr. Doolittle tell how these yellow banders, unlike ordinary Italians, would cap their honey as white as do the blacks, we repaired to his shop, there to look over samples of his honey produced from the drawn or deep-cell foundation, to which Mr. Doolittle has already referred in one of his articles. He had kept these samples for me to try, when I should come. He procured a plate and case-knife, and together we repaired to a cool place under one of the large spreading apple-trees. We first tried the chewing quality of a sample made from drawn foundation, and then a sample made from ordinary foundation. It was evident that there was more midrib on the new product than on the old.

While Messrs. Doolittle and Salisbury were sampling, I, with my fingers all sticky with honey, grabbed up the camera and took a shot, and the result reduced to half-tone is also shown.

You will notice that Mr. Doolittle uses a tall section, and the same are held in wide frames while on the hive. He has been using these deep sections for years, if I am correct; and although I forgot to ask him *why* he did not use the regulation $4\frac{1}{4}$, the reason is, no doubt, owing to the fact that his markets call for these tall boxes; and as long as they bring a

little higher price, he will, of course, continue to use them.

About this time we were called to dinner; and, with appetites whetted to the keen by the ride, Mr. Salisbury and I enjoyed Mrs. Doolittle's excellent dinner. After a most delightful chat, on bees and the issues of the day (for Mr. D. has given much thought to some of the great sociological problems of our times), Mr. S. and I took another route back to Syracuse. He led off as usual. We passed through Marcellus, where N. N. Betsinger once lived. Frank pointed out to me the beautiful home Mr. B. once owned, but which, with every thing else, had been swept away in a lawsuit. Whether Mr. Betsinger was guilty of the awful crime of which he was accused, and for which he was tried, we shall, perhaps, never know. I do not remember exactly the result of one or more lawsuits. I believe, however, the jury disagreed. The affair is a most sad one, and the lawyers reaped a harvest.

Winding around the river we came to Camillus. At present there is there a Mr. House, a bee-keeper, a brother of George W. House, formerly one of the editors of the *American Apiculturist* in its palmiest days. Mr. House has a most beautiful location for an apiary. Just back of his dwelling is a sort of ravine where his apiary is kept between two of those big hills for which York State is famous. As I have before stated, I took a Kodak view, but, most unfortunately, it was so late in the day it did not develop up as it should. But there is not a prettier site in the whole world for an apiary. Possibly Mr. House will favor us with a photo of his yard at some future time.

Leaving here, Mr. Salisbury took the lead as usual; but I noticed that his legs were beginning to give out. He had not been used to such long rides as I had, and was not standing the trip quite as well, and I was just beginning to wonder whether I hadn't better push him with my wheel, when he made an extra spurt, and in a short time we landed at the top of a long hill, and coasted almost into Syracuse.

Frank is one whom it is a pleasure to know. He is rather quiet in his manner; and if the other fellow will do the talking, he will keep still, occasionally throwing in a word. He is a single man, but I have heard it whispered that one or two nice girls were after him. If they get him he'll be a prize. But the lack of a wife is more than made up by a most excellent mother, whom to know is to love almost as one's own.

MILES MORTON.

His Comb-Honey Super; His Portable House-Apiary.

BY ERNEST R. ROOT.

Although I have already said a few things concerning friend Morton I have not said all I want to say yet. In the first place I had better formally introduce him—at least so far as

I can do it on paper, and here he is—in half-tone if not in flesh and blood.

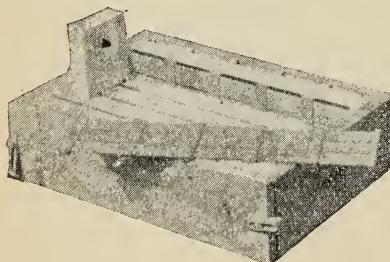
When and where Mr. Miles Morton was born is not particularly important; but it is pertinent to remark that he has been for years using certain devices and practicing methods that to me appear to have been in advance of the times. As his "bee fixin's" had real merit other bee-keepers seeing them wanted them



MILES MORTON.

also, and the result was he simply *had* to make for them what they could not buy at the regular factories. I have already said he has a finely equipped little shop, and from this he has turned out some nice fine work of the Dr. Tinker order. He does not seem to have gone into the manufacturing business so much for the money as an accommodation to his neighbors and friends. Well, this same philanthropic spirit shows itself in his willingness to show me his ideas, knowing that I would give them away to the world.

I have already referred to the salability of his sections; of the cleated separators that he has been using for the last eight or nine years; and I now show you a view of his comb-honey super, a half-tone reproduction from a snap shot that I took while in his apiary.



MORTON'S COMB-HONEY SUPER.

On top of the super is his section, the size of which is just exactly $3\frac{3}{4} \times 4\frac{3}{4}$. The section

is four-piece, having practically no bee-space on either side, as I have already explained, the bee-space itself being formed by the cleats on the separators themselves. The size of this section is regulated by the fact that his regular L. hive is $18\frac{1}{2}$ inches long inside; and this length, divided by five, gives $3\frac{3}{4}$. The super itself, being of the same length, is made enough deeper to give a nice proportionate height to the section; for the York Staters, you know, have a strong inclination toward a tall or deep section.

As I have already said, the cross-cleats on the separator are held on simply by ordinary cabinet-makers' glue. In all the years that Mr. Morton has been using this separator, not once has one of these glued strips come off. As you already know, this separator pleases us so well that we have practically adopted it for our 1898 separators, for plain $4\frac{1}{4}$ sections without bee-ways.*

These sections in Morton's super are supported on slats, spaced and fixed at the proper distance; and the top edge of the sections comes flush with the top edge of the super. When there is only one super on the hive, enamel cloth is laid directly on top of the sections. If there is to be more than one, a sort of honey-board having slats corresponding to the top of the sections is laid on top, there being no bee-space between the sections and the slats. On the top side of this honey-board there is a bee-space that provides for the usual space under the next super above.

It will thus be seen that the top and bottom of the sections are entirely covered, whether the super is used singly or tiered up. While I can not bring myself to believe that thus covering the tops of the sections is just exactly the thing, I am not prepared to say that Mr. Morton is all wrong; for on the principle of "by their fruits ye shall know them," his honey is in every respect first-class.

Another unique feature of this super is a tightening-side, two long screws being passed freely through the center at each end of this side into the center of the ends; and these screwheads stick out far enough to permit of the use of an ingenious metal wedge. The left end of the super shows the wedge with its thin edge to the head of the screw, and in this position permits of the widening of the super by about $\frac{5}{8}$ inch, for the easy insertion and removal of the sections. After they are all inserted, and the separators in their appropriate places, the wedge at the left side is turned over end to end and driven down, bringing the thick end of the wedge against the screw-head. As the head of the screw is fixed, the wedge crowding against the head and against the super side, it causes the sections to be squeezed up compactly.

The interior view of the house-apiary shows just how these wedges are adjusted while the bees are storing honey in the supers. This method of tightening is quite ingenious, and I do not know that I have seen another just like it.

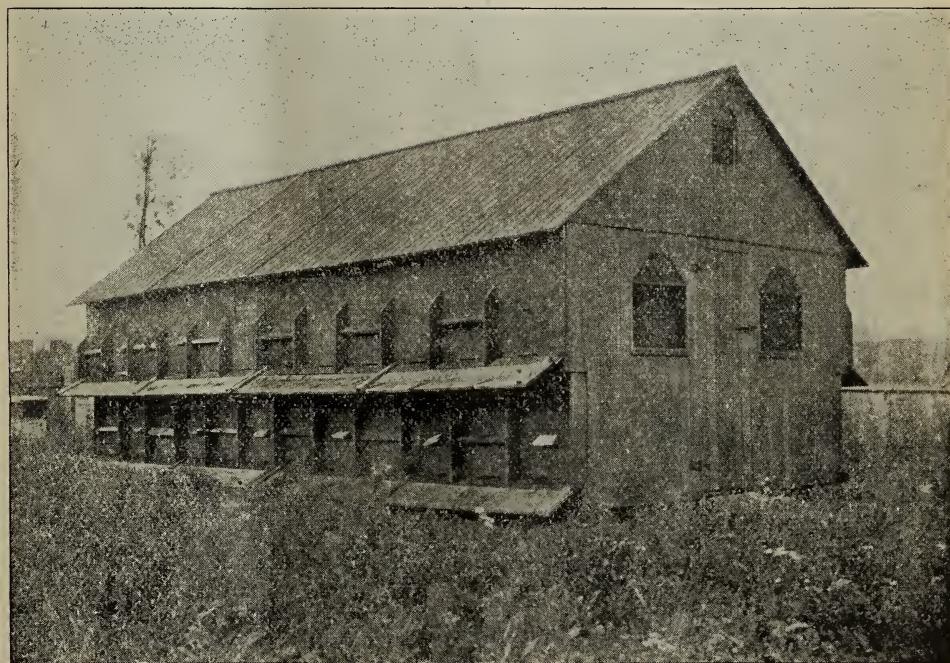
*A full description of this is given in another column.

MORTON'S PORTABLE HOUSE-APIARY.

While I was stopping at Mr. Morton's home I made a free use of the camera—taking shots at several of his ingenious "fixin's." On the day that I was at Groton there was to be another bee-keepers' picnic at Freeville, concerning which I will have something further to say at another time. It was arranged that Mr. Niver was to take the train, and Mr. Morton and I were to drive over to Freeville, stopping on the way to inspect one of his house-apiaries. Arriving at one of them I took a couple of views which speak for themselves. The building is made up of large panels, said panels being made at home, and so constructed that they can be put together and

windows with bee-escapes at the top as shown. Between the windows there is a doorway.

A unique feature of the construction is that there is a jog in the siding, as will be seen. The first tier of hives rests on the floor—see interior view. The second tier of hives rests on the jog or shelf, said shelf being exactly balanced, as it were, over the first section of the siding below. The object of this jog is to give the operator inside of the building plenty of room to work over the lower tier of colonies, without danger of bumping his head against the upper tier; then, while working over these latter, the operator stands upon the lower tier of hives. The jog will show both on the inside and outside. The arrange-



MORTON'S PORTABLE HOUSE-APIARY.

form a very neat and commodious house-apiary. By looking sharply at the half-tones you will see the dividing lines in the roof and in the floor. Any point that may be settled upon as being a good honey range may be selected as the site for the building; then if for any reason that locality in years to come does not prove to be as good a one as at first, the structure can be taken down panel by panel, piled on a wagon, and taken to some other point and erected.

The building is very cheaply constructed, single-walled, and made entirely of tongued and grooved boards. Close to each edge of the roof-boards is a groove, or gain, that conveys the water away from the cracks, thus making a roof at a very small expense, practically water-tight. At each end there are two large

ment seems to work very nicely, and adds but a trifle to the whole cost of the building.

PARAFFINE PAPER FOR SECTIONS DEFENDED.

BY F. DANZENBAKER.

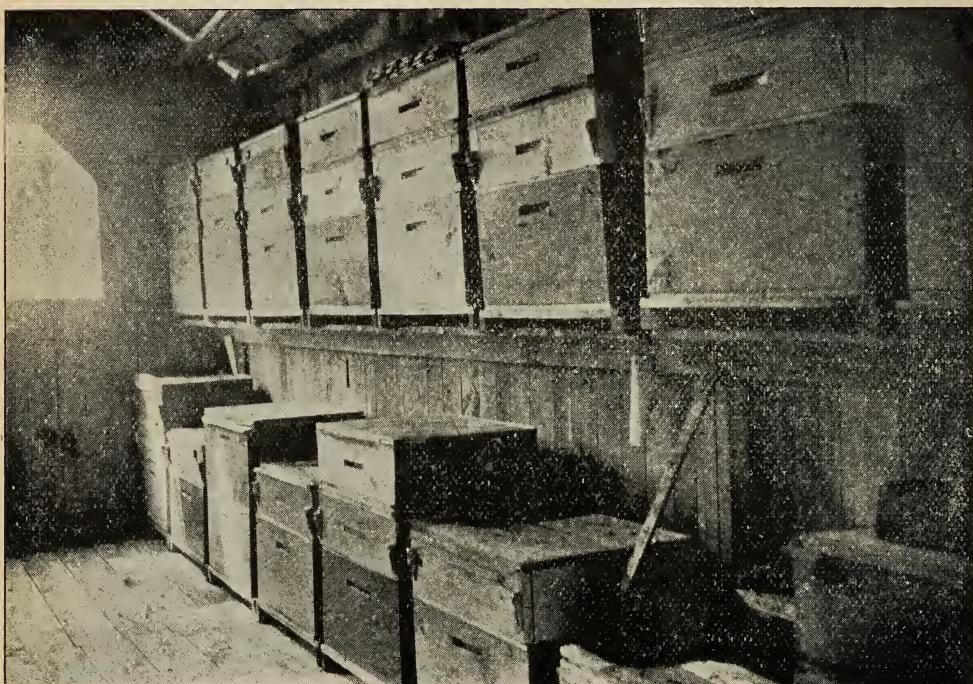
Mr. Root:—I notice the article of Mr. F. L. Thompson, page 734, from the *A. B. J.*, page 677, relating to paraffine paper for covering sections, etc., in which the writer shows to his satisfaction that he has not succeeded with it as well as he ought to or might have done, and decides he can get along without it. So far, well enough. Experience proves that bees daub and plaster propolis over enameled sheets, duck, burlap, etc., and cut through

them at their option. Any of these things cost in the first place. While bees at the close of the season may paste propolis at the juncture of the paper with the sections, to prevent wax-moths or worms from secreting themselves under the paper on the top of the sections, they do not paste on its surface between the sections as they do with the other fixings.

It was the comparative freedom from propolis when properly applied that has proved its value here on my own hives which, as there are no rabbets or open spaces requiring much gluing, may make some difference, for I have seen L. hives covered with enameled sheets, with tin rabbets stuck even full of propolis.

is more valuable, as we use new sections rather than clean up the old. However, I think it is nearer correct to say that the sections are practically free from propolis, or sufficiently so to justify the use of the paper in the time saved alone; of course cleaning sections where it is not used; but this is mentioned only as a compensation to offset the time taken to put it on. But it was not intended to be the leading advantage—only a secondary one.

The chief one was that it renders the supers air-tight at once, when properly placed, thus sparing thousands of bees to go afiel'd that might be needed to keep up the necessary heat in the super without it. While saving other bees from gathering so much propolis before



MORTON'S PORTABLE HOUSE-APIARY—INTERIOR VIEW.

To-day I examined here my last supers taken off, and there was simply a line of pure wax at the juncture of the paper and edge of the sections. It could all be wiped off the entire super of sections with a piece of section, when they were ready to pack in cases, and the same set of mats had been used during April and May in North Carolina, then two weeks in Washington, and six weeks in Virginia. Many of them had been taken off and used seven and eight times, and are good yet. Heavier, tougher paper like flour-sacks, double coated, might be as strong and tough as enamel sheets, at one-third the cost.

But in using the lighter paper, single coated, at 2 cts., it is intended to use it but once or twice, so that it may be as well to tear it off and use clean sheets to clean it off when time

work could begin in the supers at all in a cold spell, it might save a week or more in the starting in the supers, and pay a hundred times its cost, even if a new sheet had to be used each time.

Washington, D. C., Oct. 31.

[“It never rains but it pours.”] Perhaps friend Danzenbaker will think so when he reads the following editorial from the *Canadian Bee Journal* for November. Here is the item:

Our brethren (or, rather, *some* of our brethren) on the other side of the line have been advocating paraffine paper over the sections to prevent the bees from propolizing the sections. We do not hesitate to say that no bee-keeper, anxious to produce first-class honey in sections, and willing to master that business, should use such paper. In the first place, it is not necessary so far as propolizing is concerned; and in the

next, the best-filled sections can not be secured without a bee-space above the sections.

It is but fair to say that Mr. D. does produce some very fine honey, and some of his customers have secured some equally good, as I can personally testify. While I am an advocate of a bee-space over sections I would not say that first-class honey can not be produced by doing away with the space and using paraffine paper directly over and in contact with the sections. Mr. Miles Morton, who produces as fine honey as can be found in the world, uses an enamel cloth (the equivalent of paraffine paper), directly on the sections, and so do many others.—ED.]

DRY LUMBER FOR HIVES.

Its Great Importance for Western States; Why Bees Can Not Gather as Much Honey from a Distance of Four Miles as from Two.

BY M. A. GILL.

Mr. Editor:—May I call the attention of some of the eastern manufacturers of bee-supplies to the fact that goods intended for use in the arid regions should be kiln-dried to the "last extremity," or else the saw-gauges should be set to make at least $\frac{1}{8}$ inch extra in all bee-spaces, either of hive or super? For the last two seasons I have labored with our association to purchase their goods of your firm, having noticed, while inspecting the bees of the county, that, in most cases, the goods sent in here from your factory (through Barteldes, of Denver, I suppose) have stood the dry climate well, and that the bee-space, even in old hives, is about what it should be.

But both seasons the committee have decided to purchase where they could buy a little cheaper; and the consequence is we got a car-load of supplies last spring that was manufactured from such green lumber that the bee-space has disappeared, or so nearly so that it is of no account.

I purchased for my own use 300 supers, and shall be compelled to get out strips and nail on top of all of them, for in some cases I find the sections stand flush with the top of super.

I for one want a $\frac{5}{16}$ bee-space, as I use no cloth or quilt on top of the sections, believing that I can keep the sections cleanest without them. I also fasten my starters so the dovetailed corner of the section comes up, which prevents the bottom from unlocking if the combs are not built clear down and fastened to the bottom; but the plan proved the worse for me in connection with the above-named supers; for our bees here, after July 1st, gather a very tenacious propolis; and in prying off the covers, even in the hottest part of the day, it would lift open the tops of from one to five sections on nearly every super.

Imagine the bitter thoughts a man would have, when spoiling from five to ten dollars' worth of fine comb honey every day, and all for the lack of a proper space! No, the goods we got last season may be all right back east, but they are a dismal failure in a climate like this.

I see one of your subscribers from the windy Pacific coast asks if bees can gather as much honey four miles as they could two. May I ask him if he could carry as many sacks of flour home in a day four miles as he could two? Is a colony of bees much different from an industrious man in doing a day's work? Doesn't each do all it can, governed by conditions and circumstances?

Speaking of windy locations, I will say that, in my opinion, a high wind and a heavy honey-flow will prove very disastrous to the working force in a very few days' time if they have to fly a long distance. So if my bees, and the field where I expected them to work, were four or five miles apart, whether it was a windy location or not, I would hitch up my team and give the bees a ride of at least $3\frac{1}{2}$ miles.

Grand Junction, Colo., Oct. 7.

[Thanks, friend G., for the fine compliment you pay us. We have made a sort of specialty of hives for the West, knowing full well that all the lumber must be thoroughly dried or else provision made for bee-spaces. We have endeavored to do both; then if the bee-space does shrink up to the desired point, or the point that suits one, he can with a jack-plane go around the top edge once or twice, and bring it down a trifle.—ED.]



LATE-REARED QUEENS.

Question.—Will queens be of any use which are reared after all the drones are killed off in the fall?

Answer.—If all drones are killed before any queen becomes old enough to be fertilized, and the season of the year is late fall, of course such a queen will become barren, or a drone-layer. Some would say a drone-layer, every time; but my own experience has been that nearly or quite half of the queens which I have wintered over that were not fertilized never lay at all. But if I read the question aright, the asker wishes to know if a queen which fails to meet a drone before going into winter quarters will be of any use. Well, that depends upon the size of the colony she is in. If it is merely a nucleus, with no prospect of wintering over, then I should say such a queen would be worthless. But should the colony be a good one, then I should consider her of some value in such a colony, as my experience goes to prove that a colony having a queen, be she laying or otherwise, will remain much more quiet during the winter months than will a queenless colony; hence the colony having a queen will come out stronger in the spring, with less consumption of stores, than will one with no queen. This non-laying queen can be allowed to remain with the colony until we are able to procure a young

laying queen from the South, and thus a good colony may be saved which otherwise might be lost. Still, I consider it much more desirable to purchase a queen from the South and introduce her to the queenless colony, where such is possible, than to try to winter over either a queenless colony or one having a virgin queen. My reason for so doing is this: Such purchased queen will commence to lay during February or March, and from her brood the colony will be materially strengthened before a queen could be procured in the spring, and thus the colony becomes ready to take advantage of the early honey-flows in the spring, which would be of little use to the colony which went through with a virgin queen.

But there are some other thoughts brought to mind by the question, which it might be well to notice. How does any one know that all the drones are killed off in his section of country previous to October 15th or November 1st? I have been quite sure several times that there was not a drone within reach of my queens' flight, and yet the spring proved that every one of my late-reared queens had found drones from somewhere, as they were all prolific layers of worker-eggs. In fact, every time I have tried to winter over virgin queens by way of experiment, all but two proved to be fertile in the spring, only as I clipped their wings so it was impossible for them to fly out in search of any drone that might chance to be left. So I have ceased to worry over late queens failing to become fertile.

Another thought is, that no bee-keeper should try to rear queens late in the season unless he preserves several hundred drones from the very best stock they have in the yard or apiary. It is a very easy matter to keep choice drones, even as late as December 1st, by taking frames of drone brood from choice colonies just before drone-rearing ceases, and putting said brood in a colony from which you now remove the queen. Ten days after the queen is removed cut off all queen-cells, and such a colony will keep its drones as long as any are desirable in the fall. If a frame of sealed worker brood is given to this colony occasionally, its strength will be kept up so that the flight of drones will be more profuse late in the season than would be the case if the workers become few in numbers. Then if an upper story filled with combs of honey be placed on the colony which is to retain the drones, the drones will fly still stronger, for, to fly strongly, drones need plenty of honey within easy access.

If you do not think it too much trouble, drones can be made still more active by feeding the queenless colony containing them plenty of warmed syrup or honey at about noon in September, half-past eleven during October, and at eleven o'clock in November, feeding only on such days as bees can fly. If, in addition to this, you go to this drone-keeping colony on some day during the latter part of September, when it is still and yet so cool that you will not be liable to be troubled with robber-bees, and carefully go over every frame in the hive, killing every drone that is at all

inferior as to size, marking, or in any other way, you will have something along the line of drones for your late-reared queens to mate with that will enhance the value of every colony of bees containing such queens from 25 to 50 per cent. This is what I have done several falls, and I think it has paid me fully as well as any work I ever did in the apiary. If we are to keep up with the times we must strive for the *best* bees as well as the *best* honey, put up in the most marketable shape.

KEEPING AND USING OLD COMBS.

Question.—A few weeks ago I lost a colony by starvation and worms. I burned some sulphur under the combs and killed the worms. Will the bees accept such combs next spring? They still smell of sulphur. What should I do with the hive of combs till I can use them next spring?

Answer.—First, let me say that the thought of losing any good colony of bees from "worms" is erroneous. The larvae of the wax-moth get possession of the combs only when the colony of bees becomes so weak (or is gone entirely) that it can not properly cover the combs. If your colony starved, then the worms took possession after the bees were dead. The burning of sulphur, to kill the worms, was the proper thing to do. As far as the smell of sulphur on fumigated combs is concerned, I am of the opinion that it is agreeable to bees which can take possession of them afterward. At least, I have noticed that such combs, lately fumigated, will call robber-bees in crowds in much less time than will combs not so fumigated. But even if offensive just after fumigation, the smell of sulphur would all vanish long before you could use the combs in the spring.

There should be no difficulty in keeping combs from now till next May in any place, unless it be in the far South, where they might have to be looked after occasionally to see that worms did not get on them again.

A good way to keep combs is to hang them two or more inches apart in an airy room, after they have been fumigated; and if thus left they will take care of themselves till swarming time next year, in most parts of the United States and Canada. If they are to be kept a year or more, or over summer, they will need fumigating or freezing till we are sure there are no more moth-eggs to hatch, when they can be packed in any place which is proof against the female wax-moth, when they will keep for an indefinite period, provided the place where they are stored is kept fairly free from moisture. In great dampness they would take on mold, and become rotten.

THE FENCE: A SUGGESTION.

Friend E. R. Root:—When I sent you that sample hive last winter I thought you would get on to the idea of the cleated separator and no-bee-way (or nearly so) section. It is my opinion that the top and bottom bars of the sections should be a little narrower than the sides or uprights. I believe it would give a better finish at these points. However, you are on the right track, but be sure not to put all the bee-space in the separator, for if you do the cappings will frequently be broken along the edges by being attached to the separator cleat.

R. C. AIKIN.

Loveland, Colo., Nov. 4.



THOUSANDS OF TONS OF HONEY GOING TO WASTE IN SOUTH DAKOTA.

Dear Friend Root:—The greatest surprise of my life in the bee-line occurred the past season. I used to keep bees in Wisconsin, and in old Jersey, and know what they can and ought to do. When I came here and saw the flora and felt the high winds and the drouth, I concluded bees could not be kept except by feeding. One does not know unless he has tried. We may think we know all about a thing, and that is usually the time we are mistaken. It seems bees winter well here, both on summer stands and in cellars. The winter is usually broken up into extremes of warm and cold, with little snow, so that they can fly often. Given a good chaff hive like yours, and 25 or 30 lbs. goldenrod honey (the finest in the world, thick when gathered, and ready to seal at once), of which there is a great amount everywhere, and they will come through gloriously. The earth is usually dry, and a cyclone-cellar will winter the bees superbly. Well, a pair of two-frame nuclei, made July 1st, and furnished foundation as needed, gave a surplus in half-extracting-frames of 75 and 65 lbs., and have the 8 frames in brood-chamber full of honey, and are still working on mustard, and raising brood. I have a lot of mustard honey, and know of none better or finer flavored. It seems too bad to see thousands of tons of honey going to waste on these prairies when each farmer, by small investment, might have an abundance of nature's finest sweets.

STEPHEN J. HARMELING.

Marion, So. Dakota, Oct. 1.

QUEENS PIPING — HOW DO THEY DO IT?
WHITE VS. YELLOW SWEET CLOVER.

In regard to queens' wings being instruments of piping, I would say emphatically that Dr. Miller is correct, for I had a queen several years ago that had not a vestige of a wing, and have seen her plainly when piping, and her piping was just as strong and vigorous as one with two perfect wings. There is a tremulous motion of the wings when piping, and you will see this same tremulous motion of the stub of the wings, or shoulders, the same as you see the tremulous motion of the flanks of a horse when neighing (if not of his tail), or the tremulous motion of the feathers of a hen when singing her morning song. From personal observation and "my" judgment, the tremulous motion of a queen's wings when piping is nothing more nor less than muscular vibration.

Replying to editorial, page 742, Oct. 15, I would say: Years ago, when I lived on a farm, there was a bunch of "white" sweet clover that grew under our east window. It grew

about three feet high, and branched out much like buckwheat, and it was white with blossoms the greater part of the summer, and was literally covered with bees from daylight till dark. Since leaving the farm I have not seen a stalk of the white, but have seen a number of bunches of the yellow here, *about two feet high*, in the village, and I have noticed them at all times of the day, and have never been able to see a bee on it, although there are plenty of them from five rods to half a mile distant. Whether it is variety or locality, I could not say, outside of my own experience, which is positively the former.

Hillsboro, Wis., Oct. 25. ELIAS FOX.

[I am pretty near ready to give up. When two such men as you and Dr. Miller say I am wrong, I am half persuaded. A little incident happened the other day that quite converted me. Back of my desk I sometimes use sticky fly-paper to keep flies off my head, and I am not bald-headed either. One day I heard a loud sort of whining noise, and, looking down, I saw a fly on its back, wings stuck fast to the paper. Whining? Why, he fairly howled with his tiny voice, and it was perfectly evident that he made this noise, not with his wings, which were held immovable, but by means of a rapidly vibrating diaphragm, perhaps. After that I caught a bee, and was cruel enough to treat her in the same way; and, lo and behold, this bee piped when I poked her, helpless and supine on her back; but don't tell the doctor that I am converted to his way of thinking. It would afford him too much real pleasure.—ED.]

GETTING BEES TO TAKE HONEY FROM SUPERS WITHOUT OTHER BEES GETTING IT.

As Dr. C. C. Miller wanted to know how to get bees to take honey from a super without other bees getting at it, I will say that, with us Iowans, by taking an uncapping-knife to uncap all that is capped, and cutting the top of the cells that are not capped, and putting an empty super below, the super that has the honey in it will work with us, but it may not with Illinois bees.

W. CARTWRIGHT.

Steamboat Rock, Ia., Oct. 20, 1897.

[Your plan sometimes works in Ohio, and sometimes it doesn't; and I suspect this is the case in Illinois.—ED.]

GETTING HONEY OUT OF SUPERS WITHOUT ALLOWING THE BEES TO TOUCH IT.

Mr. Root:—I notice in the Oct. 15th GLEANINGS that Dr. Miller, in *Stray Straws*, wants a plan to get the honey out of a super without allowing other bees to touch it. That's easy enough. I'll tell you how I do it. When, in taking off supers at the close of the season, I find a colony that is short of stores, I leave the bee-escape on; then when I get ready to have unfinished sections cleaned up, I go to these colonies and remove the escapes from the boards, plugging up the holes with a block having a small hole in it. Then I tier up with unfinished sections or any combs I want cleaned ed. They are always cleaned out promptly if

put on at a time of scarcity when bees would rob.
CHALON FOWLS.

Oberlin, O., Oct. 22.

WINTERING SUCCESSFULLY UNDER SEALED COVERS.

I have good success wintering under sealed covers (boards one inch thick) in good chaff hives by placing 10 or 12 inches of buckwheat chaff over them. It should extend three or four inches on each edge of the sealed cover, and be put on before frost. Tell Dr. Miller if he will put his bottom starters on sections in a curve he will have less trouble by their falling over.

W. C. SIMONS.

Arlington, Pa.



J. R., Cal.—Without knowing more of the conditions it would be impossible for me to tell just why your bees leave the hive at this time of the year—October. If they have honey, brood, and eggs, the circumstance is very unusual. It might be well to investigate and see whether mice or other vermin have access to the hive. Sometimes bees will desert the hive because of this.

D. N. R., Ohio.—I omitted telling you how to get rid of the small worms that are on your honey. One way is to burn sulphur in a tight room where the honey is; and another way is to purchase about a dime's worth of bisulphide of carbon and let it stand in an open vessel, and evaporate; but some have said the bisulphide of carbon injures comb honey, and I would therefore advise you to use the sulphur instead.

A. B. M., Fla.—There are very few beekeepers in the world who keep anywhere near 500 or 600 colonies, and perhaps two or three that keep as many as a thousand colonies, and perhaps only one man who keeps over that number. As a general rule, there are very few places indeed where it would pay to keep a thousand colonies, and I doubt very much whether it would pay you in Florida to go over 400 colonies, and then you would do well to proceed cautiously. Increase gradually by establishing out-apiaries one by one. It is possible you might be able to manage a thousand colonies; but I would advise you to "go slow."

F. B. J., Ark.—If you expect to move your bees half a mile some time this fall or winter I would advise you by all means to move them before cold weather comes on—the sooner the better. If the temperature outside is not over 60° Fahr. it will not be necessary to put wire-cloth screens over the tops of the hives, removing the covers. Simply nail wire cloth over the entrances, and load the bees into the wagon.

In regard to a place for swarms to cluster

upon next summer, in a yard where there are to be no trees, I would advise you to start some low-growing bushes, something that will grow rapidly, and at the same time will act as shade for the bees. The bees will very often cluster on these rather than go off to the woods or some tall tree.

J. L. C., N. Y.—The sample of brood has been examined, and I find it to be a very bad case of foul brood—one of the worst I have ever seen. You are probably familiar with the method of treatment. If not, refer to p. 34 of our catalog, last paragraph or two.

I can hardly think the queen you got of — could have transmitted the disease. I never knew a case yet where a queen from a diseased colony, when sent by mail in a mailing-cage, would transmit the disease to the colony receiving her. For experiment we have taken queens out of diseased colonies in our apiary, when we had foul brood some years ago, and introduced said queens into healthy colonies, but never any bad results followed. I should be more inclined to think the foul brood came from the colony you purchased in the first place, or else was already present in your vicinity.

W. W. L., Pa.—Yours of Oct. 21 is received, and I have carefully noted all you have said in your letter in reference to the accident to the span of horses by which they were stung to death by your bees as they were going to and fro to the buckwheat-field. First, I would say that you could probably get no help from either Bee-keepers' Union unless you were a member before the accident took place. If you were one, and have been right along, then of course I would lay the matter before one of the Unions at once—that is, to whichever one you happen to belong.

The case involves a good many legal points, and it looks as if, in view of the fact that you had previously warned the boy against driving his horses by at a certain time of day, telling him that there was *danger*, and he disregarded your instructions, the amount of damages, no doubt, would be very much smaller than it would otherwise be. It is possible that the court would decide that, under these circumstances, you were not under obligations to pay any damages whatever. In any case, I would advise you to employ as good an attorney as you can find, and get him to advise you in regard to legal points. If he decides that the case would probably go against you, then you had better settle without recourse to law. Get an attorney who would be *honest* with you, and one who is not hungry for a job; otherwise he may state that there is good fighting ground, and that you had better take the case before the courts, when you have actually "no case." In the mean time I would advise you to be careful about making any promises, or stating what you will or will not do. Just state that you do not care to discuss the matter until you can see your attorney, and yet I believe you mean to do what is fair and right. Later on I should be glad to hear the result of the case; and after the thing is all settled, write it up for these columns, telling how it was adjusted.



THIS journal seems to be nearly all editorial matter. We promise not to monopolize so much space next time.

THE last number of the *Bee-keepers' Review* is a good one. In spite of the fact that Bro. Hutchinson has "passed through the deep waters" so recently, he seems able to keep his journal up to its own excellent standard. Most men would be too nearly crushed to be able to do good and creditable work so soon. Bro. H.'s pluck and good sense in going right on with his work in spite of deep sorrows are to be admired. We hope our readers will remember him when they make up a list of papers they will take the coming year.

A POSSIBLE METHOD FOR CONTROLLING FERTILIZATION OF QUEENS.

MR. L. A. ASPINWALL, of Jackson, Mich., has black and hybrid bees all around him; but by clipping a small trifle off from the wings of each queen he has managed to have a much larger per cent purely mated. The idea seems to be that the queens have more difficulty in flying with their wings clipped down, and consequently the mating is restricted to a great extent to the drones around home. By this plan Mr. Aspinwall, according to the *Review*, "has kept the mismated down to one in twelve with clipped queens, while the unclipped average one in four." It is not stated how much Mr. Aspinwall clips off to bring about this result, although mention is made of one queen from which an eighth of an inch had been taken from each wing.

This is valuable; and if equally good results shall be secured by others in a vicinity where blacks and hybrids are predominant, we may feel that we have "gone and done" what has hitherto been regarded as impossible.

A SAD ACCIDENT.

I AM pained to note, by the *Progressive Bee-keeper*, an accident that happened at the factory of the Leahy Mfg. Co. While Mr. Leahy was passing at some distance, a scream and a falling of lumber attracted his attention. Three children—two of them belonging to his partner, Mr. E. B. Gladish, had been trying to climb up on a lumber-pile, resulting in its falling "over on them, crushing the life out of one, while another had a leg broken, and Clifton Gladish was more or less injured. The one killed was little Florence Gladish, a bright sweet child of four years." GLEANINGS extends to Mr. Gladish its sincere sympathies; and while neither he nor any one else can really be blamed, it is one of those unfortunate things that sometimes *will* happen. I have always had great fear that my own boy, always eager to climb up on lumber-piles, might have something similar happen to him. The little tots scarcely realize that a lumber-

pile is almost as dangerous as a railroad-track, and yet it is well nigh impossible to keep eyes on them all the time.

FOWL BROOD IN SCHOHARIE CO., N. Y.

I SAID some little time ago that foul brood was making rapid headway in districts where there were more bees and bee-keepers than in most places in the United States, and I had in mind (though I didn't say so) Schoharie Co., N. Y. I am pleased to learn that, through the energetic efforts of the foul-brood inspector, Mr. Frank H. Boomhower, of that county, the disease is being rapidly stamped out; but he fears it is working over into adjoining counties that have just as many colonies of bees in them, but over which Mr. B. has no jurisdiction as inspector; and he hopes that I will put in a warning that bee-keepers in those vicinities may be alive and awake to the danger that may confront them next season. Mr. Boomhower says he has worked every day since he was appointed inspector, and that every yard so far inspected has been affected by it, and that in some instances whole yards are wiped out entirely by the dread destroyer. In one instance he found 51 colonies out of 61 that were rotten with the disease. I think it would be a good idea for the State of New York to have Mr. Boomhower appointed State Inspector. When I visited him early last fall I was much impressed with the thoroughness with which he did every thing he undertook. He thinks foul brood is an awful scourge, and that it should be handled promptly and energetically. And it is this kind of men that make good inspectors.

A BOOK ON PATENTS; THE SMASHING OF THE SECTION MONOPOLY.

J. A. OSBORNE & Co., have just issued a hand-book of patent law. We did the printing, and, *of course*, that part of the work is A No. 1. We are not up on patent law; but Mr. Weed, who is, says he believes this to be the very best hand-book of the kind of any thing heretofore published. It answers most of the questions usually asked by inventors, manufacturers, and patent-owners and users of patents, and further considers what is patentable, etc. A copy of this book can be obtained free on application to J. A. Osborne & Co., 580 Arcade, Cleveland, O. Some of our readers will remember J. A. Osborne in connection with M. D. Leggett, of Cleveland, one of the attorneys who helped to defend us in the suit brought by Fornicrook in the famous Fornicrook section case. It went through the lower courts, and then it went to the Supreme Court of the United States; and Judge Stanley Mathews declared the Fornicrook patent "null and void for want of novelty." This, expressed in ordinary language, simply meant that the one-piece section, which formerly had been selling for seven, eight, and even ten dollars a thousand, was old, and therefore by this decision was made common property; and the result was that other manufacturers commenced making it, and the price finally dropped to \$5.00, then to \$4.00, then \$3.50, then to \$3.00, where it now stands.

**THE VALUE OF VENEER STRIPS BETWEEN
SECTIONS IN A SHIPPING-CASE.**

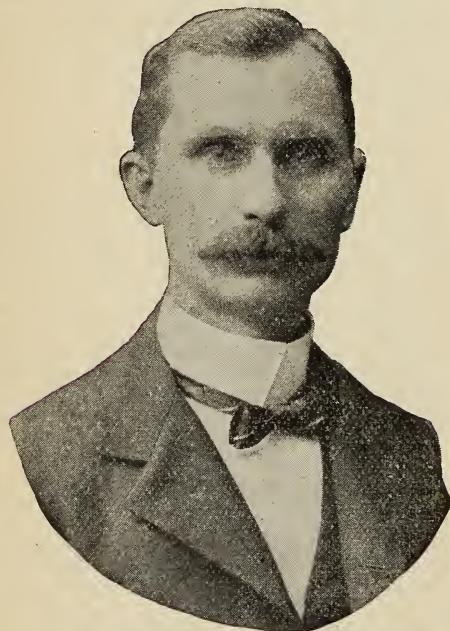
In the *Canadian Bee Journal* for November, Mr. E. Kretschmer makes a point which I am sure is well taken. He says:

Separators in shipping-cases are, I think, not yet very much used; but I find that, if separators are used, a comb broken from a section, if confined to the space within that section, can not break or deface the next adjoining section; whereas, if the separators are not added, the entire row is frequently broken down. Wood separators are cheap, costing less than 2 cents for a case, while their benefit is more than tenfold. I therefore think that no shipping-case is complete without the separators.

Quite a number of the York Staters use thin veneering stuff between their sections and shipping-cases. In the case of the no-bee-way sections it will be not only a necessity but an advantage to use such veneering; with such sections, if the combs should break down they would have less distance to tumble against the separator, and the consequent damage to the comb would be less.

"GO WEST, YOUNG MAN;" JOE'S PARTNER-SHIP.

SOME fifteen years ago a young man applied for a position as stenographer at our office. His letter was neatly written; and after some little correspondence the applicant came on. This was none other than Joseph Nysewander.



JOSEPH NYSEWANDER.

He filled the position in our office very creditably for two years, and then, taking Horace Greeley's advice of his own accord, left us to strike out for himself in the great West. He landed in Des Moines, Ia.; and after a little time his name appeared in the advertising departments of the bee-journals as supply dealer and manufacturer. His business kept on in-

creasing until last year, when, to my certain knowledge, he disposed of something like 13 carloads of goods.

The name of Joseph Nysewander and Root's goods have come to be almost inseparably



linked together. His place of business on Grand Avenue is shown in the annexed half-tone. On the left will be seen a wagonload of hive stuff just as it came from the car, direct from the Home of the Honey-bees.

Mr. Nysewander, besides doing a large business in the way of handling supplies, also sells considerable honey.

Now the romantic part of my story comes in. It seems Mr. Nysewander *also* had an application for a position as stenographer. I do not need to go into details; but it is enough to relate that Joe was a bashful bachelor, honest and good, and the stenographer was proficient and pretty. A life partnership was formed, of course, and the business boomed as it had never done before. No wonder he sells supplies.

**COMB HONEY IN NO-BEE-WAY SECTIONS, VER-
SUS COMB HONEY IN OLD-STYLE SEC-
TIONS WITH THE BEE-WAY.**

ON page 715 I refer to the fact that no-bee-way sections with filled combs seemed to look plumper and nicer than the same comb honey in the old-style sections. To give our readers somewhat the actual difference in appearance I asked one of our men to select eight regulation 4½ sections from our lot of comb honey. At that time we did not have very nice honey on hand; but he was able to select 8 sections that would average with No. 1 comb

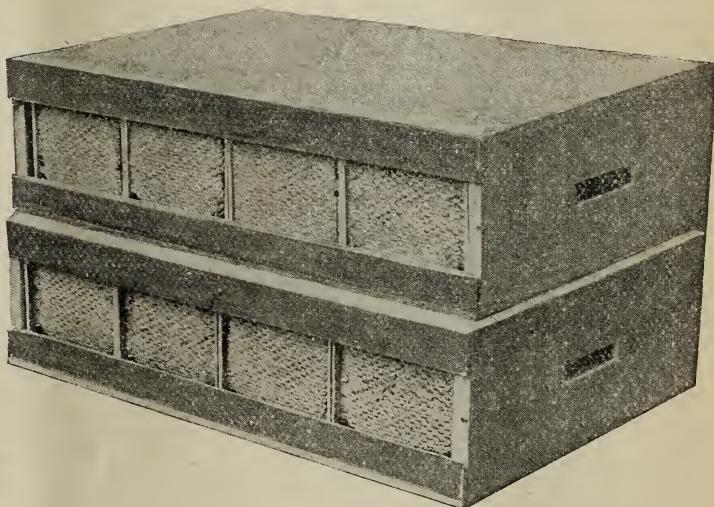
honey as it generally runs on the market. These sections were to be as nearly alike as possible. From four out of the eight he was to plane off the bee-ways so that the sides of the sections would be of the same width as the tops, or straight all around. Next he was to put four of them in a shipping-case, and the other four, that he did *not* plane down, in another shipping-case. These were then placed one on top of the other, on a box, where I photographed them, and the result is shown in half-tone herewith.

Both cases of sections came from the same lot, and from the same man, and were as nearly alike as could be. In the upper lot you will notice that the comb honey comes nearly flush even with the sides of the sections, and almost up to the glass, but not quite. In the lower lot will be seen the regulation standard section, and it will be noticed that the comb honey stands back in, from $\frac{1}{2}$ to $\frac{3}{8}$ inch from the glass of the shipping-case, and to my eye, at least, they do not seem to

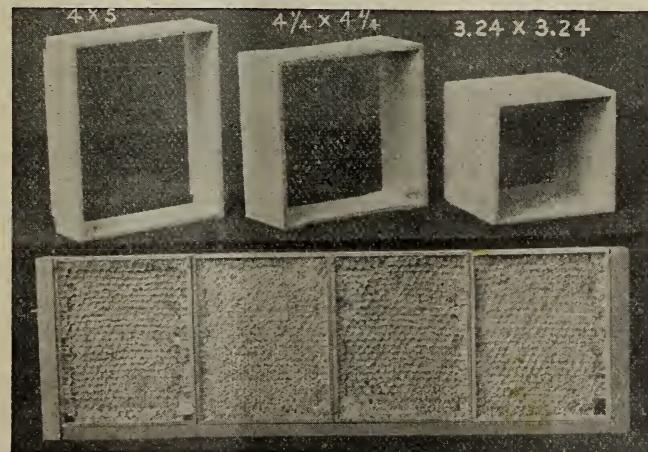
be as well filled out nor do they look as plump full and pretty as those in the top case. You will notice, also, that the fact that the combs stand back half an inch in the

can try the experiment with his own honey in his own shipping-cases.

But old-style sections planed down do not give quite the effect of comb honey produced in no-bee-way sections with slatted separators. When the bees go back and forth through the slats in the separators they have a tendency (if my eyes have not deceived me) to fill out the combs a little fuller; and they are also less inclined to leave a hole at each of the four corners. The very fact that, in one-piece sections of regular style, the opening, or bee-way,



COMB HONEY IN NEW AND OLD-STYLE SECTIONS.



COMB HONEY IN NO-BEE-WAY SECTIONS PRODUCED WITH THE FENCE.

lower case gives them a darker shade. The exact difference is not entirely shown in the picture; but, as I have already said, any one

comes up to within half an inch of the corner, causes the bees to make a hole generally in each of the corners; and that is one reason probably why some York State bee-keepers have preferred four-piece sections. The other reason is that they have bee-ways clear across so they can insert glass.

But another factor in preventing the bees from making holes through the corners of the sections is having the cross-cleats of the separators drop down $\frac{1}{4}$ inch from the top of the section, so the bees have free passageway clear across the face of the sections, $\frac{1}{4}$ inch from the top, besides a passageway through the slats from one section to another.

To show you how honey looks in 4×5 Danzy sections, with no bee-ways in front, and produced with cleated separators, I reproduce here a cut from Mr. Danzenbaker's book, "Facts About Bees." You will notice that the corners are all filled at the top, and nearly

all at the bottom, and you will also notice, owing to the absence of bee-ways, that the sections have a plump nicely filled-out look, such as sections having insets do not have.

THE REVIEW ON THE NO-BEE-WAY SECTIONS.

Since writing the foregoing, the *Bee-keepers' Review* for October has come to hand, and in it I find an editorial that interests me greatly, particularly as it confirms almost every point that I have made in favor of the no-bee-way section.

SECTIONS WITHOUT BEE-SPACES; THE LATTER BEING FORMED BY THE SEPARATORS.

While on my way home from the fairs I passed one day at the hospitable and pleasant home of Mr. L. A. Aspinwall, of Jackson, the man who furnishes an article each month for the first page of the Review. In his back yard is an apiary that now numbers 50 colonies. During the past season it has furnished him about 3000 lbs. of as fine honey as I have ever seen. A portion of it was yet stacked up on the shelves of his honey-room. A more even or perfectly filled lot of sections it would be hard to find. Mr. Aspinwall has for several seasons used sections without bee-spaces, that is, they are the same width all the way around, the bee-spaces being furnished by metal offsets on the tin separators. There are also openings cut in the separators just opposite the meeting-point of each pair of sections. This gives the bees a free passageway through the super, and does much to lessen the pop-holes at the corners of the sections. The plump, full, smooth look of sections filled in this manner, without the one-fourth inch of wood standing up above the comb-surface, does much to add to the attractiveness of the sections. It is almost impossible now to sell the old-style of sections to Mr. Aspinwall's cu-tomers. This style of section also allows the use of a machine in cleaning off the propolis, by means of which it can be done very quickly and effectually. Mr. Aspinwall uses a super of the knock-down style, with thumb-screws at each end, whereby the sections can be pressed very closely together, and when the season is over these supers can be piled away in very little space; but I won't steal his thunder, as he has promised to illustrate and describe all these things in an early issue of the Review.

The wonder with me has been that so many of the supply-dealers and bee-journals have been so stupid all these years as not to see and know that a no-bee-way section is far superior to the regulation kind with insets at the top and bottom. Why, I almost feel myself like making Bro. Aspinwall a visit to see his honey, and to learn more about his experience with these sections. But as we are promised that he will tell us something about it in the *Review*, assisted by illustrations, we may all, to a certain extent, take a peep into his apiary. Bro. Hutchinson, I wish you would tell Bro. Aspinwall to hurry up with that article, and at the same time hurry up the *Review* that will contain it.

INVENTIONS WHICH ARE IN ADVANCE OF THE TIMES.

IN line with what A. I. R. said in last issue, page 782, the latest issue of *Electricity*, a weekly publication devoted to the science indicated by its name, relates how one Moses G. Farmer exhibited the first operative electric railroad at Dover, N. H., fifty years ago; and, even prior to that time by some twelve years, a Vermont blacksmith astonished the scientific world with the first attempt in that line; but, as the editor of *Electricity* very pertinently remarks, "he and Farmer were too far ahead of the time to make much impress upon it; but during the ten years that have elapsed

since the installation of the Richmond road and the Philadelphia meeting, the little horse-railroads, converted into electric systems, have become enormous concerns, carrying annually millions of passengers where they had been carrying hundreds."

With regard to the cleated separators and the no-bee-way section, it would appear that such men as Miles Morton, of Groton, N. Y.; the late B. Taylor, of Forestville, Minn.; Oliver Foster, of Grand Junction, Colo.; Mr. L. A. Aspinwall, of Jackson, Mich.; R. C. Aikin, Loveland, Colo., and K. P. Kidder, were ahead of the times, but times were not ready for them. I firmly believe, judging by the correspondence that has come in lately, since I began the agitation of these ideas, that the times are now ripe, and that this cleated separator and the no-bee-way section will go a long way toward crowding the old-style sections with awkward insets into the background. While it is true the A. I. Root Co. may have an "ax to grind," we propose by every fair and legitimate means to push into popularity these two things—not so much for the "filthy lucre" there may be in them, but because they are a real step forward, and, as I believe, will prove to be a real help to the mass of bee-keepers who depend upon bees to a greater or less extent for their bread and butter. While it is true that the pushing of these two things will give the A. I. Root Co. business in certain lines, it can not fail to help other supply-dealers just in proportion to the prominence they place upon these same things that are as free as water, can not be patented, and are old.

But the thought that we have been all these years without the benefit of these two things, when in point of fact we already had them, is almost *provoking*. For years A. I. R. said he would give a large sum of money for a well of soft water on his grounds. Perhaps the offer was larger because he was sure no such water could be found here in Medina, where the water is notoriously hard. But when, a year ago, a well-driller went a little deeper and cased off the upper vein of hard water, an unlimited amount of very soft water bubbled to the surface (with the help of an engine) as much as to say, "Good-morning! I have been waiting here for years for you to let me out and do you good. Why did you not punch a hole through my prison sooner?"

THE NO-BEE-WAY SECTION OLD.

Quite by accident, as I was running over some of our back volumes I ran across an advertisement of G. B. Lewis, of Watertown, Wis., calling attention to the value of no-bee-way sections. This advertisement appears on page 102 for Feb., 1882—nearly sixteen years ago. Mr. Lewis calls attention briefly to the advantages of such a section; but why bee-keepers did not "catch on" then I can not say, unless it is that they did not know or appreciate the value of cleated separators by which alone such sections could be used. Many and many a time we have gone back to first principles in hive-construction; and it looks as if, in the case of the one-piece section at least, history were about to repeat itself.



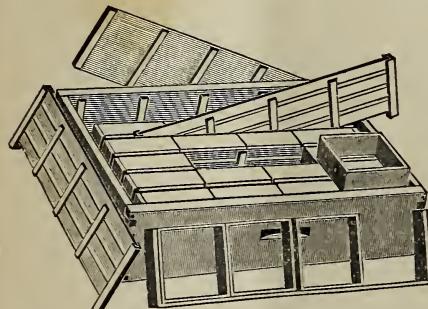
THE NEW SECTION WITH ITS FENCE; NOVELTIES FOR 1898.

The favorable reports that have come in from those who have been using the no-bee-way section and fence (cleated separator) for the last four or five years, together with words of indorsement from some of the greatest apicultural lights in the United States, have decided us to make the new devices regular for the coming season rather than to supply them on option as we at first proposed. Ordinarily it would be good business policy to feel our way by letting the new things push themselves



FENCE FOR SEPARATING SECTIONS.

into favor *gradually* rather than to get behind them and push them. Some of the reasons (to recapitulate) that have influenced us to make the fence and the no-bee-way section regular—that is, a part of the regular hive-equipments—are the following :

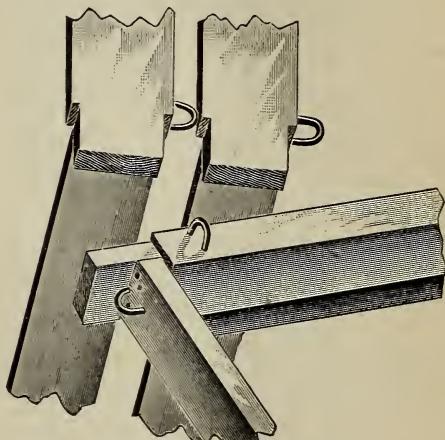


NO-BEE-WAY SECTION SUPER WITH FENCE.

1. The fences are made entirely of scrap, and, consequently, will cost but little more than the old-style separator, which, after being used a year, had to be discarded for a new one. As they will be glued together at the factory by automatic machinery, the bee-keeper will not be bothered to put them together. Those who have used this fence say it is good for years. They are, therefore, cheaper when viewed in this light than the old separators.

2. Prettier and better filled comb honey can be secured with a fence, for the reason that the bees can crawl all through the slats, affording them easy and direct passageways from one honey-box to another. *One great objection to the old-style super with its separators was that it shut off each section box into a compartment or room by itself;* and, as every one knows, it was much harder to get bees to

enter comb-honey supers than supers of the extracting sort. While we * do not go so far as to say that the fence will offer as much inducement for the bees to enter the comb-honey supers as those for extracted, we do believe they afford most substantial encouragement; and for that reason we *believe* the bees will enter the supers a day or two earlier than they otherwise would.



STAPLED SPACED FRAMES.

3. The peculiar construction of the fence will, we believe, largely do away with the passage-holes in the corners of the ordinary section honey-boxes. I said, "We believe," for we are not positive; but after looking over lots of honey produced with the fence, and lots with the common separator, we notice the corner holes are much more prominent in the case of old-style sections that have been divided off with the ordinary separator.

4. The fact that the fence is made up of several different slats, bound by transverse strips on each side, and grooved cleats on each end, has a tendency to very materially stiffen and strengthen the section-holder. In case of the old-style super, the bottom-bar of the section-holder would sometimes sag; but the new fence is so much stiffer than the separator that we believe it will do away largely with the sagging of the bottom-bars.

5. The new section, when filled with honey, will bring a higher price, because they appear to be and in fact are better filled out, and the surfaces of the combs themselves are more even—at least this seems to be the experience of those who have used such sections with a cleated separator or fence; for instance, see what L. A. Aspinwall thinks in regard to this—a bee-keeper who has used them for years—in the extract from the *Bee-keepers' Review*, in the editorial department.

6. Facility in scraping these sections with their plain straight edges is quite an important feature. It is not an easy matter to clean out the insets of the ordinary old-style sec-

* When I use the singular first person, I mean my opinion. When I use "we" I mean the opinion of our company.

tions, and practically impossible to remove the stain. A casknife or a piece of steel having sharp square edges will, with one sweep, clean almost the whole four edges of the new section at once.

7. The new fence and section greatly simplify the construction of the section-holder. The bottom, instead of being scored out to correspond with the openings in the bottoms of the sections, is one straight piece and of the same width as the section itself. The end-bars are also of equal width with the bottom-bar.

8. The new section is only $1\frac{1}{2}$ inches wide, and yet will hold as much honey as the old $1\frac{1}{8}$ section with its openings; and consequently the ordinary shipping-case will hold from 15 to 25 per cent more honey, thus effecting a substantial saving in cases to the bee-keeper.

The new section-super with its fence and straight-edge section is shown in the engraving. The section-holder appears in the front with three sections. A fence appears at the end in the super itself. The follow-board is cleated the same as the fence; so also is one side of the super. With what I have already said, the general construction of the super will be plain.

NO-BEE-WAY TALL SECTIONS AND FENCE.

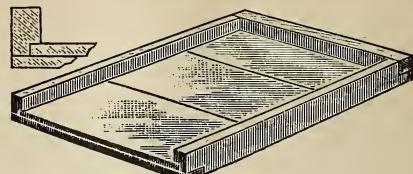
It is evident that there will be quite a demand for deep sections for the season of 1898; and we expect to be prepared to furnish the 4×5 Danzy section with no bee-ways, and double-cleated separator, in the Danzy supers. The construction of the Danzy super is such that either the regular Danzy section with one bee-way, and separator cleated on one side only, or the 4×5 sections no bee-way, and fence cleated on both sides. There are also some who would desire to use a deep section with no bee-ways, in their regular supers. We shall be prepared, also, to furnish a section-supporting rack—a device that will both support the sections and add to the depth of the super. These deep sections will be about the size of the Morton. They will be $1\frac{1}{2}$ by $3\frac{3}{8}$ by $3\frac{3}{4}$. The super will be practically the same as Morton's shown in another column. Illustrations will appear in a later issue, that will show the plan.

NEW-STYLE DANZY BOTTOM-BOARD WITH ITS DEEP ENTRANCE.

I have already spoken of the advantage of having large entrances—so large, indeed, that it is not necessary for the bees to cluster out in front in order to keep cool on hot days. I have also shown that clustering out caused by contracted entrances on hot days has a tendency to induce swarming. I have also proved, to my own satisfaction at least, that a large entrance cures, to a very great extent, this clustering out, and will do away with at least 25 per cent of the swarms that now pester and bother us just when we want the bees to work in the supers.

The bottom-board that we have adopted for our regular hive-equipment for 1898 is the Danzy, and is shown herewith. We supplied this on option last season, and the results have

been so satisfactory that we have decided to make it regular for the coming year. It is so constructed that the bottom-board may be reversed. One side provides for an entrance $\frac{3}{8}$



DANZY BOTTOM-BOARD.

inch deep, the whole width of the hive; and the other—the side shown to the observer— $\frac{7}{8}$ inch deep. The shallow entrance may be used during the robbing season. During hot weather, when honey is coming in, the deep side may be used. In the case of the old-style bottom-board, it had to be removed entirely for indoor wintering. But this is not true with the new one, for the deep side may be used next to the hive, and the hive carried into the cellar, bottom-board and all.*

STAPLE SPACERS FOR THICK-TOP FRAMES.

I have long known that there was a certain class who do not exactly like the Hoffman frame. They seek something that separates a little more easily in the hive; and in localities where propolis is deposited to any considerable extent, a metal spacer may be preferable. When I stopped at Frank Boonhower's, Gallupville, N. Y., I found he was using staples as side spacers; and when I questioned him about it he said he had used almost everything; but after having used these for several seasons he was simply delighted with them; and, what was more, his neighbors all around him were beginning to supply their apiaries with them.

For the season of 1898 we expect to equip all our thick-top loose suspended frames with staples. Each lot of 100 frames will contain a sufficient number to staple them as per the engraving. If the purchaser does not care to use spacers at all, he need not put them on. One staple is driven into the top-bar at each diagonally opposite corner. None are used in the end-bars, although they may be so used if desired; but for my part I prefer not to have them. As the heads of the spacers are rounding they admit of the frame sliding into position. The end staple used is the one shown last season, and has given universal satisfaction. We shall be prepared to furnish our customers, on option, this style of frame in preference to the Hoffman, when so ordered.

* In relation to these points, I find that a writer in the *Progressive Bee-keeper*, speaking of a bottom-board with a deep entrance, says: "First, 90 per cent of robbing is done away with; 2d, with plenty of room under the frame and plenty of store-room at the proper time, swarming is done away with; 3d, bees never lie out on the outside of the hive with a large entrance; and, 4th, when bees can not reach the bottom of the brood-frame on entering the hive they are compelled to crawl up on the inside of the hive, instead of going up between the frames. Thus the supers are entered more readily. All this I claim for the large entrance and plenty of room under the bottom-bars of brood-frames."



ON THE WHEEL TO THE CELERY-FARM OF
WEAN, HORR, WARNER & CO.

On Friday, the 29th of October, I visited the celery-farm of Wean, Horr, Warner & Co. Although the frost did them some damage, their celery had so far recovered that it seemed to my eye a sea of verdure and luxuriance. It was then all banked up for cold weather. All that was visible over the grounds was banked entirely with soil. The rows were, perhaps, five or six feet apart; and from the bottom of the ditch to the top of the rows of celery they must have been some three or four feet high. It was dug by means of a digger—a machine built specially for it. The hillings were also done almost entirely by machinery. Perhaps I should say at the outset that they have grown this year 140 acres of celery; and while everywhere else celery-farms have been greatly suffering from drouth, and many of them worse still by fire in the muck, our friends at Lodi have hardly felt the dry weather. In fact, their ditches, which were, I believe, 90 feet apart, are almost full of water at the present time. Why, it really looked as if it had been raining so as to fill the puddles and ditches at the side of the road. Mr. W. R. Wean informed me they were filled with the water from several springs along the base of the hills at the edge of the swamp.

Perhaps the most interesting object to me was their celery-washing machine. Imagine a great tub with the sides say three feet high, and may be twenty feet across. Inside of this tub is a revolving platform. The platform is either iron rods or very heavy poultry-netting. Of course, the platform is attached to an upright shaft in the center of the tub, and is kept revolving at just the right speed. The celery is spread out on this platform. At three or four different points there are appropriate iron pipes perforated with small holes so as to let a powerful spray strike the celery as it moves under the pipes. By means of a steam-engine and a steam-pump they keep a tremendous pressure on the sprinklers. One man at one side of this big tub pours the celery on the moving platform, and spreads it out. When half way around, another attendant turns it over. If it does not get fairly washed the first time, they let it go around again. Mr. Wean says when the washing is all done by spray the stalks are not bruised and rubbed as they are when a stiff brush is used or where it is washed by hand. You will notice how a root of celery turns yellow where it has been cut, say at its lower end, after it has stood several hours. Well, if the stalk is bruised or handled harshly it will become discolored and speckled throughout its length. The celery washed by the machine is of pearly whiteness, and will keep so several days longer than celery washed in any other way. The machine is the invention of Mr. Wean.

I rode down to the celery-farm on my wheel, with the northeast wind on my back, and it was fine "sailing," I assure you. Going back home, however, the wind was right in my face, and that was not so "fine." Now, here is a hint: When you are going out for a wheel-ride for any considerable distance, choose a day when the wind is at your back, and then you will be quite comfortable, no matter how hard the wind blows. If the wind does not turn around when you come home you will have to get back the best way you can—possibly on the cars.

By the way, I am told that, in some localities, their celery has not only been dried up by the drouth, but that the muck has got on fire, and in some places has burned out to a depth of several feet. Now, my impression is that these ashes would be worth quite a little as a fertilizer next season—at least on certain crops; but I have been told that in some places the ground is made almost worthless for celery or any other crop. Can any of the friends tell us whether this is true?

These people raise onions as well as celery, and it was my pleasure to look over the crop of 70,000 bushels nicely housed in the long rows of onion-buildings. Last year they got a dollar a bushel for their best onions; and with higher prices on potatoes, wheat, and other things, they think their chances good for something like it this year. And, by the way, I learned one new thing about keeping onions. In every lot of onions there are more or less that will sprout in spite of any thing that can be done. These are sorted out and thrown away. Of course, where the quantity is small they can be planted out for bunch onions under glass or in the open air in the spring; but out of a crop of 70,000 bushels the culs or bad onions would be altogether too great in quantity to utilize in this way unless somebody should make a special business of it and supply a special market in some very large city.

OUR HOMES.

And thou shalt teach them diligently unto thy children, and shalt talk of them when thou sittest in thy house, and when thou walkest by the way, and when thou liest down, and when thou risest up.—*DEUT. 6:7, 8.*

If our readers will look up this whole 6th chapter of Deuteronomy they will notice that Moses has been exhorting the people to this effect: "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy might." Then he goes further and gives the words of our text. And we also notice that he goes *still* further, and says, "Thou shalt bind them for a sign upon thy hand, and they shall be as frontlets between thine eyes."

In the *Rural New-Yorker* for Oct. 30 the editor submits a question to his readers, and below the question he publishes the replies from several different persons. Here are the questions:

BREEDING OUT THE TOBACCO HABIT.

THE BOY AND THE PIPE; TOBACCO AND THE BOY.

What, in your opinion, is the best way to prevent a growing boy or young man from using tobacco? Would you try to induce abstinence by a rigid prohibition, enforced by punishment, or would you endeavor, from earliest years, to create a distaste for tobacco by explaining its physiological danger to growing youth? In a great many cities, the dangerous effects of narcotics and stimulants are explained in the physiological text-books used in the public schools; yet, in the same cities it is found necessary to pass an anti-cigarette ordinance. What stand would you take in the matter?

I confess I was somewhat surprised to see this subject so boldly taken in hand by an agricultural paper. Other agricultural papers have at different times given us some excellent editorials on the matter of tobacco; but yet the most of them, I am grieved to say, either in the same issue or sooner or later, discuss tobacco culture, and publish articles telling how to manage the plant and the crop, without thinking they have done any thing wrong or out of the way, evidently. This thing has jarred on my sense of right and wrong until I have felt as if I could stand it no longer. Another thing that has jarred still worse is that our government has been and is sending out bulletins in regard to the cultivation, gathering, and marketing the crop, without ever a word in regard to its effect on our people. I have eagerly caught hold of the bulletins, and scanned them from beginning to end to see if the learned professor belonging to the agricultural college whence the bulletin seems to have emanated did not somewhere touch upon the effect and the result of encouraging the tobacco industry. Not a word. There is nothing in the whole bulletin — nothing in *any* bulletin I have ever got hold of that seemed to intimate that the man had any sense of right and wrong at all. Perhaps he might say it was not in his province or department to discuss the matter. Now, our bulletins on growing strawberries usually have something to say in regard to the advantage that would accrue to our people, especially the children, if fresh berries were furnished to each family—all they could consume. Why, it is a part of the *government work* to discuss foods and their effects on the health. In fact, I have rejoiced to find of late that we are having quite a good many bulletins telling us how to cook food with economy, and as an aid to good health. Will not these same men—at least some of them—after a while get around to discussing the probable effect of tobacco and cigarettes on the comfort and future welfare of our growing population—especially their effect on the boys? And now, dear friends, perhaps you had better read that question from the *Rural* again, since I have had so much else to say. I have space here to give just one of the replies. It comes from a mother, and it comes nearer to my heart and home because she is an *Ohio* mother :

CREATING THE DEMAND.

My four children were left fatherless six years ago. Two were boys, one of whom is now 17, and the other 19 years of age. Within the past year the eldest has taken to smoking an occasional cigar. The boys have been warned against the evils of tobacco from their

earliest youth. I did not have occasion to punish them then, as they did not use tobacco in any form. I always read to them, or got them to read for themselves, all of the deaths or calamities caused by cigarette-smoking, of which there are so many accounts in the daily papers. But they do not give them a second thought, as they know of boys of their own ages who use the cigarettes constantly, with apparently no evil effects.

The different tobacco firms use every inducement to get young boys for customers. A letter came this week to my eldest son, saying that his name was furnished by the merchant of this place, wanting him to try their particular brand. They also inclosed a coupon, good for one plug of their tobacco, which he was to get free from his dealer, who sent his name. The dealer then would return them the coupon, for which he would receive 10 cents. A laudable enterprise, wasn't it for a general dealer in a small country village? The letter and coupon were taken to the "store" by a very indignant woman, a few questions asked, and a few remarks made. I venture to say that the boy will receive no more coupons from that source.

FANNY FLETCHER.

I am making a good many extracts from the *Rural* in this issue, I know, but I want to give just another one, an editorial, where they comment on this mother's reply. Here it is :

What do you think of that storekeeper, who sent the names of boys to the wholesale dealers in tobacco that samples of their wares might be sent the boys? What would you do were it *your* boy? Wouldn't you make some "remarks" to such a dealer? Isn't it about the most contemptible piece of business of which you can conceive? Every decent man or woman with any regard for the well-being of the children of himself or his neighbors should not stop at making remarks, but instantly withdraw his custom from such a disgrace to humanity; this is the only effective way of reaching some dealers. This custom of furnishing names for various purposes is all too common, and they are often furnished for much more degrading purposes than that mentioned. Kill the whole business. In this city—perhaps in others, also—a postoffice box must not be rented to a minor, that much of this sort of thing may be guarded against. The writer was once in a country store in a little town in Michigan. In this store, tobacco was not sold, and signs prohibiting smoking were displayed. And what a contrast between that store and another in the same place where there was no such prohibition! It wouldn't be difficult to say where the best class of customers would go. Encourage the store-keeper with a conscience, and put both feet on the other disreputable or heedless character.

It is several days since I read these things in the *Rural*. I purposely waited, to see if I could find more about this business; and I have tried, too, to look on both sides of the subject. I know it is a fashion nowadays to furnish free samples of goods. Dan White, in our last issue, when he got on to the scheme of giving away samples of his nice honey, had evidently fallen into line with the modern way of doing business. Perhaps we can not really blame the tobacco-dealer for wanting to do what other people do, especially when the greater part of the agricultural papers, and even the government of the United States, discuss tobacco-growing as if it were just as praiseworthy as growing strawberries.

Who, then, is to blame? Why, we are *all* to blame. The daily papers are giving us continually the results of the tobacco and cigarette habit—especially the latter. They do not hesitate to speak right out plainly, and tell what killed the boy, and protest against the whole business. The doctors, the greater part of them, are bold enough to say frankly what the effect of cigarettes is on our boys; but when it comes to banishing or killing out the whole business, government officers and

business men seem strangely silent or stupid. They are afraid to say or do any thing, because there is "big money" in it.

I do not know but the people who sell them might give some sort of flimsy excuse, to the effect that a *moderate* use of them by *grown-up* people would not do very much harm—forgetting that practically nobody learns to use tobacco *after* he is of age, but before, when it is illegal to sell to him. This woman would have replied, however, to such an excuse, if it had been presented to her, that the cigarette habit is worse than tobacco or even the liquor habit, in that it can not be controlled to what some people might call "moderation." And even if the vender did refuse to sell to minors, one big boy could purchase enough to supply the whole school;* and I am told that our school scholars are getting them and using them quite freely. Every teacher knows the effect of cigarettes on his pupils—not only on the physical health, but on the mind, which begins to be affected by even a small amount of tobacco. Boys are going to the insane-asylums, and dying in almost every neighborhood, on account of cigarettes. A death has recently occurred among my own relatives, and another is likely to follow soon.

Some may say, "If you do not like cigarettes, let them alone." But the vender is getting the addresses of schoolchildren, and mailing them letters or circulars, with a promise of something for nothing. Boys are curious about the effect of cigarettes, just as they are curious about electricity and other wonderful things that they have seen. Children are folding up make-believe cigarettes in order to have some fun when some one begins to scold and make a fuss. Trifling with any thing which is so dangerous, frightens and alarms me.

One of the writers in this same *Rural* intimates that the best of parents can not always control this thing. They say one boy will grow up steady and temperate while his brother is just the opposite. This may be true to some extent; but I can not help believing that the father and mother can make sure that their boys will never be addicted to these things if they care enough about it. Long before cigarettes were invented, and long before I became a Christian, I was satisfied that tobacco was a stepping-stone to the liquor habit. Both Ernest and Huber commenced remonstrating with people about the use of tobacco almost as soon as they could talk plainly. I had to check them in order that they might not commence on entire strangers on the street in regard to the matter. They had probably heard it discussed so much by their father and mother that they grew up with an aversion to it. I know that, as the years pass by, they bring great changes; but

I can not believe that any change can come to pass that will induce either of our boys to use tobacco. I am not boasting of our own children, dear friends—I am only insisting that, if sufficient pains be taken, the matter can be managed.

Where will all this thing end if we do *not* take pains? I see little notices in the dailies, to the effect that the *girls* in some cities are forming clubs where they smoke cigarettes. I do not think this thing will go very far, however, for public opinion—at least the opinion of the intelligent and educated public—will be so strongly against it that a woman will not dare to bear the scorn and disgust that will come from the public at large. I admit that the cigarette business has been given some severe checks; and several times I have thought it was going to be stamped out; but yet in almost every community there can be found some man or boy who says by his actions, if not by his words, "It is nothing to me whether cigarettes kill or cure people. As long as they want them, and there is money in the traffic, I am going to sell them." The laws are helping us some; but, oh dear me! why don't they wake up? The adulteration of food is an outrage on the community, especially when something really baneful is put in it that is supposed to be pure food. But how about feeding our people *opium* under some sort of disguise, because the vender knows, when they get about so far along, they will have it any way, no matter what it costs? If this meets the eye of any of the professors who have charge of our experiment stations and the bulletins emanating therefrom, I should like to have them answer me; and if anybody sees it who has to do with the Agricultural Department at Washington, I wish such party would tell me what they mean by putting out a bulletin on tobacco culture, without any intimation as to whether or not it is a good thing to furnish our people a terribly baneful and poisonous article.

A man was once announced to speak at a farmers' institute in defense of tobacco-growing. He was a pretty good sort of man, except that he was largely engaged in growing tobacco. He stood before the audience for a brief period, looked very red in the face, and then said he did not think he had any thing to say in defence of tobacco, after all. I suppose he discovered that, instead of having an audience of tobacco growers and users, he was confronted by a lot of Christian people.

Now, I have not said very much directly in regard to our text; but I have had this in mind: That nothing in the world can do so much to keep our boys honest and pure and clean as to bring them up in the *fear of the Lord*. Let them listen to Bible-reading and prayer, and that from the lips of the father and mother, every day of their lives. Let the Bible teachings also be made so plain that they will see the bearing, and its practical application on every event of their lives. Do this, and walk consistently yourself, and I have no fear that the children will ever consent to take even a start in using tobacco or strong drink.

*Since writing the above, an attorney in our employ tells me that one evening, while standing on the street near the postoffice, his attention was attracted by a group of small boys, evidently waiting for and expecting something or somebody. Pretty soon a larger boy approached, opened a package, and distributed among the small boys what he afterward found to be cigarettes.

One word more in regard to our agricultural journals. When I call attention to such inconsistencies as I have in the former part of this article, I have been told several editors are employed on a journal, and they do not always think alike on these things. This will do very well when applied to matters that do not very greatly affect the health, and influence the morals of our people. But when it comes to the matter of encouraging or discouraging the tobacco industry, I should say the editors had better get together, and decide before they start out with the new year, what their journal is going to have to say about tobacco and cigarettes. Surely an agricultural paper can take as bold and decisive a stand as our dailies, that sometimes claim they are obliged to publish every thing—good, bad, and indifferent—because people demand it. May God be praised that we have editors who are not afraid to teach righteousness, purity, and temperance; and, after having so taught, are consistent enough to hold fast to their standard year in and year out.

I have had considerable to say in regard to our periodicals and journals. Everybody expects that, as a matter of course, the *church of God* will stand firm and unwavering in such a matter as this. But I am reminded just now that superintendents of Sunday-schools are often engaged in the sale of tobacco. We have here in Medina, however, one superintendent who banished tobacco from his grocery at the very time he became a Christian. In doing so he banished so many of his old customers that he felt at the time really troubled about it. This was years ago. At the present time I think all will admit he is doing the largest business, and has the finest store of the kind here in the village.

SOME THOUGHTS SUGGESTED BY READING "OUR NEIGHBORS" IN GLEANINGS FOR OCT. 1.

Mr. Root.—Bro. Vincent, of Milan, where I am supplying, handed me a copy of GLEANINGS for Oct. 1st. I was so pleased with Our Neighbors that I read it at home to my people, who declared it beautiful. These sermons must do good. I want you to send me copy of that number, that I may forward it to a friend who will, I am sure, prize it. If you will, let me pay you for the number in the form of a little poem I have just written, and which you may place in GLEANINGS if you think it worthy.

May God bless all workers who seek to comfort, convert, and elevate. J. POLLOCK HUTCHINSON.
702 Church St., Ann Arbor, Mich., Oct. 28.

PROVIDENTIAL GUIDANCE.

Open the way for me, O Lord, I pray;
Open the way.
Let there be light that I may plainly see,
And faithful prove where thou wouldest have me be.
I have my spindle and my distaff, Lord;
Thy help afford;
Let not the labors of my hand relax,
But let me spin for thee; send thou the flax.
Here is my harp; I can not play aright
To give delight;
Lord, tune the strings; then draw forth music, such
As ne'er responded to musician's touch.
Here is my heart; it, too, is out of tune;
But thou canst soon,
And thou alone, put it in perfect chord,
And life be made an anthem to the Lord.

The concluding stanza of the above poem came home to me. I should be almost afraid to have the dear friends who read GLEANINGS know how often this poor heart of mine is

"out of tune." But, praised be the Lord, I have found a remedy. My little prayer, "Lord, help," very soon puts me right. And this suggests a beautiful thought I got from Rev. A. T. Reed. He invited me to speak one rainy evening, at Gustavus, Trumbull Co., O. At the close of my talk he asked for brief testimonials from the congregation. A great part of them arose, one after another, and testified to the power of Christ Jesus. Before he invited them, however, he said something like this:

"Dear Christian friends, please do not make the mistake of holding back just because you do not *feel* like it. Feeling has nothing to do with it. It is Satan's plan, to keep you still. Why, look here. Some morning Johnnie comes downstairs; and when his mother says, in a bright, cheerful tone, 'Good-morning, Johnnie,' he keeps perfectly mum, and does not answer her kind greeting at all. What do you think of Johnnie, even if he does give as a reason for his proceeding that he does not 'feel like it'?"

Johnnie knows very well what he *ought* to do, whether he feels like it or not; and the very best way in the world to get into a cheerful mood is to answer pleasantly and good-naturedly his mother's morning greeting. If he keeps still because he *feels* surly and cross, the chances are that he will be surly and cross all day, or, as our good brother has happily expressed it in the little poem, he will be "out of tune" all day. Now, shall we not all learn a lesson from Johnnie? Let us be pleasant and courteous and kind when we get up in the morning, because it is our duty so to do, especially when we profess before the world to be followers of Christ Jesus. Our feelings really have nothing to do with it; and, in fact, if we behaved ourselves in a Christianlike manner only when we *felt* like it, we should be very poor Christians indeed. You know the old hymn,

"Am I a soldier of the cross," etc.

Health Notes.

HEALTH WITHOUT MEDICINE.

Dear Bro. Root.—About twelve months ago you wrote some articles in GLEANINGS about "Health without Drugs;" and after telling your readers of the Salisbury water cure you immediately mentioned a book entitled "The True Science of Living," by Dr. Dewey. Feeling impressed that that book was worth getting I sent to America for it; and, having read it, I decided to give the method a three-months' trial.

I may state that I am forty-six years of age, and have been in the ministry twenty-two years.

When a lad I was not very robust; and from the age of eighteen up to within a year ago I suffered from dyspepsia, having some intervals of rest from dyspeptic troubles during this period. During the whole of those twenty-seven years I was not able to travel with comfort in the train, tram-cars, or back seat of a buggy, being invariably sick; and on the sea I was completely prostrated.

Aug. 29, last year, having read Dr. Dewey's book, I started the no-breakfast plan. That was on Saturday. On the following day, Sunday, I traveled twenty-two miles, preached three times, administered the sacrament of the Lord's Supper, and finished the day's work with a sense of ease and pleasure. I never threw more energy into my preaching up to that time than I did that day.

From the day I started this plan up to the present I

have had a clear brain, and have been able to think and study without any feeling of heaviness or fatigue whatever. Prior to this I used to feel the need occasionally of an after-dinner nap on account of a dull heavy feeling I had at mid-day. Since beginning the two-meal-a-day method I have not felt the need of such.

For the first six weeks or two months I lost flesh and weight, and became somewhat weak in body, yet always clear in mind. After that I soon regained flesh and weight and strength, and have continued in the enjoyment of good health ever since.

The result, after a year's trial, summed up in a few words, is this: Dyspepsia completely gone; ability to eat and digest any thing the appetite calls for; clearness of mind all through; greater energy in preaching than ever before, with no supervening tiredness on Monday; ability to travel with pleasure by train, tram-car, or buggy. (I have not tested it on the sea yet.) The no-breakfast method has been to me good, all good, and only good, and good altogether.

I hope that others may be led to procure the book and read it, and realize like benefits.

Murrurundi, N. S. W., Aus. GEO. A. REEVE.

Dear Bro. R., I thank you for your kind words, and I greatly rejoice that you have found such wonderful help and strength from so simple a remedy. But please pardon me if I suggest that it may not work as well with everybody as it does with yourself; and may I suggest, also, that perhaps a great many of our troubles arise from our eating more than Nature really demands. In any case, omitting the breakfast and cutting off the surplus gave Nature the chance she wanted; and I have several times suggested to Dr. Lewis that one of the reasons, certainly, why the beef diet gave such good results was that it entirely removes the trouble of overloading the digestive apparatus; and it also cuts off the harmful fashion of eating sweets and other things between meals. And now a word to our readers:

Dear brothers and sisters, when you smile at the enthusiasm of our good friend away off in Australia, please consider what a wonderful advertisement his letter would have been if he had secured the above result by using some *patent medicine*. May God be praised for the fact that he is not boasting or advertising any kind of "doctor stuff." It would hardly do to suggest that his wonderful recovery was through enthusiasm awakened by that book; but it does teach with exceeding plainness that a very little thing may make all the difference between exuberant health and a painful malady. I have heard of great relief being obtained by simply cutting off tea and coffee, and drinking absolutely nothing at mealtimes. Others have found relief by eating dry bread or zwieback; and just now in a neighboring town I am told of wonderful cures that have been brought about by a cereal food cooked four or five hours in a double hot-water kettle. So many people got strong and well on this new health food that the proprietor has been receiving *five dollars* for his kettle and five pounds of the cereal food; and each purchaser was required to sign a contract not to divulge the secret of the method of cooking to any of his friends or neighbors. You may say that, if people get well, the money is well invested; and some of you have even gone so far as to say the same in regard to Electropoise—that, if a man or woman *got well*, the \$25.00 was well invested; no matter, either, if it was all through the influence of the imagination.

May God help us in our efforts to sift out the wheat when there is so much chaff.

Perhaps I should add, in closing, that the book mentioned above can be procured of the Henry Bill Publishing Co., Norwich, Ct. Price \$2.25.



NO KILLING FROST BEFORE NOV. 6.

When we had quite a little frost on the evening of Oct. 7 I began to think this was a bad season for tomatoes, cucumbers, and perishable stuff; but after the tomatoes on the upland began to show that they were not hurt very much after all, I told the boys to take care of them and may be we should have some tomatoes after all. Sure enough, we got our largest picking *after* that first frost. Before the frost, the tomatoes had brought a dollar a bushel; but along about the last of October they became so plentiful everywhere that the price went down to 40 cts. We were actually picking and selling tomatoes until Nov. 6. I have known this to happen so many times before that I rather expected it. Do not be in haste to think your chance is over for the season.

During the past two months we have had a severe drouth. In fact, the wells were dry to such an extent that farmers were coming in from the country to get water from our artesian well; and on my wheelrides I saw men, women, and children carrying water, almost everywhere, until Nov. 1, when we were greatly rejoiced by several days of rain. The sun then came out a little; then it rained again, and now, Nov. 10, every thing is rejoicing. I was just thinking this afternoon that such a condition of affairs would be sure to produce mushrooms; and while I write, a quart strawberry-box heaping full has just been placed on my table.

SWEET CLOVER, AGAIN.

We clip the following from a valued agricultural journal :

One kind of clover is a nuisance in farming, as, despite its savory name, it has no feeding value whatever. That is the common sweet clover which springs up beside railroad-tracks and other waste places. Cows will not eat it, even when it is young and tender. Bees sometimes visit its flowers, but the honey made from them is greatly inferior to that from white clover.

It seems to me the above is a series of mistakes. First, that it has no feeding value whatever, is surely not true; second, that cows will not eat it, even when it is young and tender. I should like to see such a cow. I have seen cows hunting greedily for it in almost every locality where I have traveled. It is possible, however, that there may be cows like those I found in Florida, that would not eat corn because they did not know what it was for. Once more: In my estimation, and in the estimation of thousands of people, the honey is little if any inferior to that from white clo-

ver. I suppose the locality and season may have something to do with it; but wherever I have found large areas of sweet clover, so that the honey was unmistakably from that source, both comb and extracted honey have been beautiful in appearance, and so luscious to the taste that I have called it equal to any made anywhere. Possibly a sample of sweet-clover honey not fully ripened might be disagreeable.

MY CHICKEN STORY; ALSO SOMETHING ABOUT LIFE-LIKE PHOTOGRAPHS, ETC.

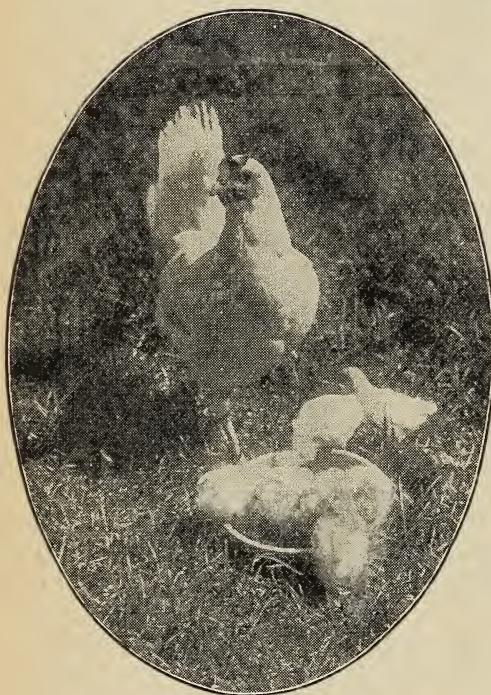
One of the pleasantest features of that bright home paper, the *Rural New-Yorker*, is its beautiful and instructive cuts of rural life. It is not altogether the excellent quality of the cuts, but it is the happy selection of subjects and the artistic way in which they are presented; and when we consider that this high-toned family paper is sent once a week

forget the good hen. In the cut is shown a young hen or pullet which will, probably, take the record for youthful productiveness. This hen is a White Leghorn, bred and owned by O. W. Mapes, the electric hen-man. Mr. Mapes tells the following story regarding this "precocious pullet." If any of our readers have hens that can beat this record, we shall be pleased to give them an opportunity to exploit their pets in our columnus.

"This pullet was hatched March 6, with 11 others. They were raised in a small brooder in the woodshed, and about April 15 they were carried to the middle of a three-acre field to keep them away from the back door, as they were very tame. Here they ran with a flock of about 500 younger ones, all eating from one long trough which was filled with feed as soon as possible after the chicks cleaned it, usually two or three times a day. In June she and her ten mates, in company with fifty of the later chicks, were colonized in No. 2 of my small poultry-houses. The surrounding houses were filled with the other younger chicks. There were no old hens nearer than No. 6—about thirty rods away. The pullets laid two eggs in No. 2 July 22, and continued to gain up to August 10, when they laid eight eggs inside the house. About August 15 I found this pullet in an old box in the rear of No. 2, sitting on fifteen pullets' eggs. The soft side of a board was the only nesting-material in use when I found her. I took pity on her and gave her some machine-shavings at once. She must have been one of the first to commence laying, as on August 27 she hatched out eight as bright-eyed chicks as I ever saw, of which she is justly proud, as her picture plainly shows. The feed has always been the same since the day she was hatched, except that a little baking-powder was added the first few days, and then the dough baked into a sort of balanced-ration bread; otherwise the feed has simply been wet with cold water."

Perhaps one reason why I like to look again and again at that picture is that, in my boyhood days, my first craze was for poultry. I sent off and bought a setting of eggs, and I was on hand, you may be sure, when the first chicken hatched. I was in such a hurry to feed them to see them eat, that, hadn't my good mother cautioned me, I might have done them harm; and then I watched their development day by day. I saw every new white feather as soon as it started. Like little pearls they seemed to me; and when the chicks grew older they were so tame I could pick them up at any time and anywhere, and exhibit them to admiring visitors. When the pullets were old enough to lay, with their beautiful red combs and bright eyes, it seemed to me as if the whole face of animated creation presented nothing equal to them. I used to carry them up to the house and show them to mother every few days, with an exclamation something like this: "There, mother! just look at her! and only five months old! isn't she a beauty?" When they began to lay it was a question who was the happier—the pullets or their youthful owner.

I remember of having a half-barrel fixed with a faucet so the water would drip just as fast as my biddies would catch it as it trickled down. Then I had the rain water from the roof of my poultry-house run into this barrel, so you see the thing was sort o' automatic. One day when I was at school something in the rain water got into the faucet and stopped the flow of water. It was a hot day, and the biddies, not being able to catch even a drop from their accustomed faucet, began to make investigations, and climb on top of the barrel. They tilted the boards that had been laid on top, boy fashion, and then jumped in to get a drink. When I got home from school, three or four of my precious laying pullets were



A YOUTHFUL HEN MOTHER.

for only a dollar a year, it seems too bad that a single family in our land should be deprived of its beneficial influence. One of its happiest efforts in a recent number is a picture of a White Leghorn pullet that commenced to lay when she was 4 months and 16 days old; and at the age of 5 months and 21 days she was the mother of a brood of chickens. I have borrowed the cut; and if our printers bring it out in good shape I hope it will give you a thrill of surprise and pleasure as it did myself when I first saw it. See above cut.

We clip the following from the *Rural* as descriptive:

While we are discussing remarkable families of human beings in their relation to agriculture, let us not

stiff and cold in the water-barrel. Oh! but wasn't there sobbing and lamenting? As I looked them over and tried to make them stand on their feet as they did in life, it seemed to me I could *not* have it so; and I remember of telling mother that I should have to stay out of school to keep watch of things. Father suggested that some big heavy stones laid on the cover of the barrel would prevent a similar mishap; and he said I had better have some water somewhere else so the chickens would not be absolutely dependent on my new watering-apparatus.

Now look here, boys and girls. This pullet was the mother of eight chickens when she was 174 days old; and, by the way, is it not a little funny that a White Leghorn should want to sit so early in life when the Leghorns are considered as non-sitters? Well, I suppose we could easily breed a strain of precocious pullets. Now, suppose you start a "hen farm" and see how many chickens you can get from one mother, say in just a couple of years. It will be something like my potato experiment where I am trying to determine how many potatoes can be grown from one single tuber in twelve months.

And, by the way, there is a sequel to the above story. The feed that was given these chickens is a new "balanced ration" manufactured expressly for the purpose. The chickens are given all they can eat up clean three times a day. It contains every thing necessary for their health and comfort, and is manufactured by Houston Bros., Middletown, N. Y., so it can be sold at about \$20 a ton, if I am correct.

Just as I am closing, my eye glances again at the picture of the youthful mother; and I want to say once more to you all, "Isn't she a beauty?" Why, I would give more for that picture made life size, and hung up in my room, than for one of the valuable paintings by the old masters.

Special Notices by A. I. Root.

MEDICINES FREE OF CHARGE.

With the advent of better times, especially better times for the farmers, swindles of all kinds seem to have revived wonderfully — especially medicines furnished free of charge, to cure certain diseases. Just open your family papers, any of them, and look at the offers — a big case of medicine by mail, postage paid, just for the asking. The editor frequently helps, or at least allows himself to be appealed to. Well, I have quite a lot of these free medicines. Some of them I have taken, and some of them I have not got around to yet. This thing I have discovered, however: As soon as you send for a free bottle of medicine, especially if you tell what ails you, you are flooded with circulars. For instance, I sent for a "sure cure" for asthma. In a few days letters came from different quarters saying they had been informed I was a sufferer from that dread disease; and I must confess that their pleas for a little money were so touching I felt almost sorry for the time being that I did not have the asthma so I could help these medical missionaries in their praiseworthy work of benefiting mankind. Now, look here, my friend: These rascals have discovered that the man or woman who reads the advertisements, and sends for a bottle of medicine free of charge, is one of those who take medicine and are likely to be attracted by every new thing. They send their remedy free of charge, in order to get the names of medicine-buyers, and are certainly reaping a rich

harvest or they would not pay hundreds of dollars for the insertion of their advertisement in expensive periodicals. Why, you will see a whole-page advertisement with a picture of the wonderful Smith or Green, who made the discovery, almost as big as life. Judging from my own experience, I do not believe it is healthy business even to *read* medical advertisements and testimonials. It is the Electropoise right over again. No matter what medicine the patient takes, he is restored as if by miracle. In fact, a lot of the advertisements do read, "Almost a miracle."

HUMBUGS AND SWINDLES BESIDES ELECTROPOISE AND OXYDONOR.

A new fad has come up in the same line, called "Electrikure." It is the same thing, only cheaper and more ridiculous than any of the others. The silly twaddle about taking oxygen out of the air and introducing it into the body is all gone over. Then follows the usual list of startling testimonials. Circulars have come to us from Florida, California, and other remote places, indicating that they are trying to introduce it where people have not yet been posted. Of course, the thing cures every thing — cancer, consumption, and all other slight ailments of the flesh. One of our correspondents humorously tells us about the reception he gave it, as follows:

Ed. Gleanings:—Not long ago one of those Electrikure frauds made me a visit and left his circular. I gave him a full dose of A. I. R.'s medicine found in Aug. 1st GLEANINGS. It didn't seem to set very well on his stomach, but I have faith to think it will do him good. Inclosed find circular. J. H. HART.
Hanford, Kings Co., Cal., Oct. 29.

And here is another letter on this same subject, which illustrates most vividly how much harm a minister of the gospel may do in letting his imagination run away with his better judgment in regard to such things:

Dear Sir and Friend:—It has been my pleasure to read many interesting letters from you, and I have for a long time wanted to write and thank you for the stand you take with the frauds.

I believe every word you say about Electropoise. Can't you tell us something about Electrikure? There is a minister here *preaching* "Electrikure." I believe him and his machine to be a fake.

Since reading your letters my mind has changed considerably in looking to Christ Jesus for strength and happiness; and before you hear from me again I think I will be a member of the Church. I would have done so before this but for such people as the Electrikure preacher.

J. M. LASSITER.
St. Petersburg, Fla., Sept. 24.

ACETYLENE GAS.

In the November *Cosopolitan* are some facts given about acetylene that conflict with statements made by you in a recent number of GLEANINGS. Prof. Jacobus finds that calcium carbide will have to be furnished for \$19.50 per ton to compete with ordinary gas. You say it is as cheap as kerosene at 10 cts. per gallon. I see that calcium carbide is over \$80.00 per ton. Now, as you were the first to draw our attention to the new light, we rely on you to see that we are not humbugged.

JOHN MAJOR.
Cokeville, Pa., Nov. 1.

Friend M., I saw the article you allude to, but I do not believe Prof. Jacobus is posted on all points. The price I gave, 4 cts. per lb., was, if I am correct, the retail price. Carbide will come down in price as the demand increases. One day last week, in passing a hardware store in Shelby, O., I happened to glance through a window, and the beautiful light reminded me of something familiar. I ejaculated to my companion, "Acetylene gaslight, as sure as you live." A crowd was already standing around the apparatus. Four burners lighted up the front part of the store beautifully. Said I:

"Friends, how long has this apparatus been running here?"

A gentleman near me replied, "Just one hour and twenty minutes."

It was the introducer of the apparatus. When I warned the crowd they had better stand back or they would all get blown up, the proprietor of the machine was going to "blow me up" until he saw I was just joking. Said he, "How can the gas blow anybody up when it is manufactured only as fast as it is consumed by the burners?"

His apparatus, running four burners, cost \$60, and he said the expense of the carbide was only half as much as that of kerosene, providing you use kerosene lamps enough to give an equal quantity of light. The flame was very small—much smaller than an ordinary gas-jet—but it diffused a most clear soft white light, reminding one of very bright moonlight. He said the machines were made in Dayton, O., and that he was introducing them into stores just as fast as he could get the machines, and that they were behind with their orders. This was the statement of the agent who sets up the machines. I give it to you for what it is worth. I forgot to ask him the present price of the carbide.

DISCRIMINATING AGAINST HUMBUG AND SNIPE ADVERTISEMENTS.

We are very much pleased to receive the following notice from one of our respectable agricultural papers:

MISSING-WORD ADVERTISEMENTS.

The publishers of *Home and Farm* have accepted several advertisements in which the principal feature is an offer to distribute cash or other prizes to persons who supply letters to complete names given with blank spaces. These were accepted from well-known and reputable advertising agencies; but the course of events seems to justify our excluding advertisements of this character from our future issues, for the good of our subscribers and advertising patrons generally.

Advertisers and advertising agencies interested are requested to take due notice and govern themselves accordingly.

HOME AND FARM.

Louisville, Ky.

I have been satisfied for a long time that there was a swindle about all this class of advertising, but I have never taken the pains to investigate just where the humbug came in. A short time ago cash was sent us in advance to advertise a "splendid razor" given to anybody who would send ten cents. We sent the money, and got a very small cake of shaving-soap. When we read the advertisement more carefully there certainly was a very small chance to make out by the wording of their advertisement that all they offered was the soap for ten cents. I think it behoves every respectable periodical to refuse all advertisements that are purposely made blind.

GOING WITHOUT YOUR BREAKFAST, ETC.

In commenting on this "cuse" in another column, I omitted to mention that the good people of Battle Creek, Mich., who make the health foods, have practiced for years the two-meal-a-day system. They, however, have a very late breakfast, and a second meal somewhere between two and three in the afternoon. Now, just one thing more: When you are traveling you can save quite a little money by omitting breakfast. Of course, you would have to have your two meals at about the time other folks do; but if, by omitting breakfast, you can save money, save doctor's bills, and feel ever so much better, why not give it at least a trial—especially if you have not got either money or health to throw away?

POTATOES FOR PREMIUMS.

Every person who sends us \$1.00 for GLEANINGS may have 25 cents' worth of potatoes as per list mentioned above, providing he asks for no other premium; and every subscriber who succeeds in sending us a new name—that is, who introduces GLEANINGS into a family or neighborhood where it has not been going, may have 50 cents' worth of potatoes. But please remember we can not pay postage on premium potatoes. Selling postage-stamps does not afford very much profit; neither is there very much margin to give away postage-stamps as premiums for getting subscribers. Potatoes are so bulky and heavy that it is very much better to have them sent by freight with other goods. As a rule it is expensive business to send them by express. Where you want only a potato or two to put in your garden in order to get a start with some of the newer varieties it may pay very well, especially where you live a long way off, to have them sent by mail or express. But where we give them away, please do not ask us to pay postage ourselves. For several seasons a good many have said, "Send me the 25 cents' worth of potatoes by mail. If you can not send a pound, send as many as you can, taking the postage out of the 25 cents." Now, please bear in mind we can not pay any of the postage out of the 25 cents. We give you the potatoes freely and gladly, because we want you all to make a test of the new varieties in your locality; but if wanted by mail, send 10 cents per lb. for postage, etc. Our new seed catalog, describing the po-

tatoes and every thing else we advertise, is now ready to mail on application. The two most promising varieties of potatoes, in my opinion, just now, are the Bovee and Manum's Enormous. The Thoroughbred has now been so thoroughly introduced that we offer it for sale right along with the standard varieties and at the same prices.

SEED POTATOES.

The way the best early potatoes are being called for, and by the many inquiries that come from seedsmen and dealers for the best varieties of early potatoes, we imagine there will be a scarcity next spring. In fact, a great many early potatoes grown for seed were this fall sold for table use as fast as they were dug, on account of the large prices that have been offered for them. Our potatoes are all dug and safely put in the cellar—something like 2000 bushels. No rot has yet appeared on any of our potatoes, and we are pouring them out of the boxes and looking them over carefully every week to see that we don't get caught. Our whole lot of 2000 bushels is stored in slatted bushel boxes, thus giving them plenty of air, and affording ease of access in looking them over. Since our last digging we have some more choice seconds. At present we can fill orders promptly for seconds of the following varieties: White Bliss Triumph, Thoroughbred, Early Ohio, Freeman, Monroe Seedling, Sir William—all at \$1.50 per barrel, except Monroe Seedling and Sir William. These, while they last, are only \$1.25 per barrel. For prices of firsts, see page 756, Oct. 15. We have also a few Bovee and Manum's Enormous, seconds. Prices, \$1.00 and 75¢ respectively.

BEANS AT LOW PRICES.

You will see by our new catalog that we offer two kinds—Best of All and Navy—at \$1.25 a bushel. This is because we have a very large stock—not because they are in any way inferior. We also offer Mills' Bainer bean, one of the very best field beans ever introduced, for only \$2.50 per bushel. The two first mentioned are well worth the price asked for a team for table use.

Light without oil.

Heat without fuel or fire.

Power without belting, pulleys, or shafting.

The first two are already realized in our own home, and the latter is beginning to be realized in our factory. None of these things were realized or thought of fifty years ago. What will the next fifty years bring forth? Who can tell?

DON'T FAIL, Try Again.

Send for our 36-page catalog full of information about bees, hives, bee-fixtures of all kinds, new improvements ahead. Keep up with the times.

A. I. Root Co.'s Goods by the Carload

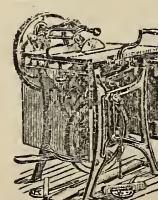
Kept in stock. Shipped to you on short notice at less freight. Prepare early for the coming season.

JNO. NEBEL & SON, High Hill, Mo.

Prosperity.

It is here and still coming. So are the carloads of bee-keepers' supplies coming from The A. I. Root Co.'s to my distributing points, thus enabling me to sell at their wholesale and retail prices. I keep the best of every thing you need. Send for my illustrated 36-page catalog FREE.

GEO. E. HILTON, FREMONT, - - - - - MICHIGAN.



One man with the

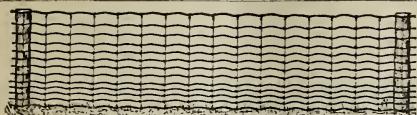
UNION COMBINATION SAW

Can do the work of four men using hand tools in Ripping, Cutting off, Mitering, Rabobeting, Grooving, Gaining, Dadoing, Edging Up, Jointing Stuff, etc. Full line of Foot and Hand Power Machinery. Sold on trial. Catalog free. 1-2ei

Seneca Falls Mfg. Co.,
44 Water St., Seneca Falls, N. Y.



500 Young Ferrets now ready to ship.
Send for price list of ferrets and pure Italian bees, free, to
N. A. KNAAPP, Rochester, Ohio.



A Boundary Dispute.
That is what many line or "party" fences become. "Good fences make good neighbors." Never heard of a quarrel "over, through or under" **Page Fence.**
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

Read what J. I. PARENT, of Charlton, N. Y., says — "We cut with one of your combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2000 honey-boxes, and a great deal of other work. This winter we have doubled the amount of bee-hives, etc., to make, and we expect to do it all with this saw. It will do all you say it will." Catalog and price list free. Address W. F. & JOHN BARNES, 545, Ruby Street, Rockford, Ill.
When more convenient, orders for Barnes' Foot-power Machinery may be sent to
THE A. I. ROOT CO., Medina, O.

Moore's Strain of Italian Bees.

Eighteen years ago J. P. Moore, of Morgan, Ky., commenced rearing Italian queens with the object of improvement constantly in view; and, as a result, he is to-day the happy possessor of a strain of bees noted for superior honey-gathering qualities throughout the U. S. and Canada. If you could step into his office and peruse the stacks of testimonials from customers you would soon become a customer too. Descriptive circular sent on application.

FARM BEE-KEEPING.

The only bee-paper in the United States edited exclusively in the interest of the farmer bee-keeper and the beginner is **THE BUSY BEE**, published by
Emerson T. Abbott, St. Joseph, Mo.
Write for free sample copy now.

CHAS. ISRAEL & BROS.,
486, 488 & 490 Canal St., Corner Watts St., N. Y.

Honey and Beeswax.

Liberal Advances Made on Consignments.
Wholesale Dealers and Commission Merchants.
Established 1875.

CALIFORNIA. Mountain bee ranch for sale. Good location; telephone connection with three railroad stations.
D. O. BAILIFF, Banning, Cal.

Clover Seed Wanted.

Parties in the West having alsike, red, or white clover seed to sell may please make offers. We wish a few more choice lots of each. Address
Jos. Nysewander, Des Moines, Iowa.

Queens, Unested queens, 50c each; tested, 75c; Breeders, \$2. Either leather or golden. My golden breeders breed all 5-banded bees.
W. H. LAWS, - Lavaca, Ark.

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Dovetailed Hives,

Sections, Extractors, Smokers, and every thing a bee-keeper wants. **Honest goods at close honest prices.** 60-page catalog free.

J. M. JENKINS, Wetumpka, Ala.

MUTH'S HONEY-EXTRACTOR,
SQUARE GLASS HONEY-JARS,
ROOT'S GOODS AT ROOT'S PRICES,

Bee-keepers' Supplies in general, etc., etc. Send for our new catalog. **'Practical Hints'** will be mailed for 10 cts. in stamps. Apply to

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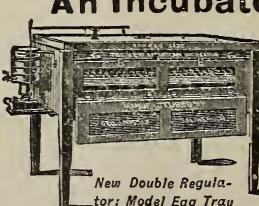
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Buy Root's goods near home at Root's prices. Winter cases and observatory hives also. Send for catalogs.
PROTHERO & ARNOLD, Dubois, Pa.

HATCH Chickens BY STEAM-
With the **MODEL EXCELSIOR Incubator**
Simple, Perfect, Self-Regulating. Thousands in successful operation. Lowest priced first-class Incubator made.
GEO. H. STAHL.
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THE SUCCESSFUL INCUBATOR

is the standard machine for hatching strong, healthy chicks. Self-regulating, patent turning trays, drying room for chicks, non-explosive lamp—just a few of its good points. Sold under a positive guarantee to work perfectly. Beautifully made and durable. Our 128 page catalogue describes them fully; tells many things about poultry raising you should know. Mailed for 6 cts.
DES MOINES INC. CO. Box 503 DES MOINES, IA.

NEVER BEATEN
in all the many shows in which it has participated, there must be something in the superiority claims of the **RELIABLE INCUBATOR**. Self regulating, entirely automatic, you put in the eggs, the Reliable does the rest. All about this and many things of value to the poultry man in our new book. Send 10 cts. for it.
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Do You Want An Incubator? Sold Under a Positive Guarantee.
An Honest Machine, Honestly Built.

New Double Regulator; Model Egg Tray
"NEW AMERICAN." Want Our Catalogue?
It's a pretty book of 68 pages, finely illustrated; worth dollars to every poultryman. A 20 stamp gets it.
GEO. J. NISSLY, SALINE, MICH.



BEESWAX.

The market for beeswax has held up remarkably well this fall, so that we are justified in going back to the prices which we paid all last spring—25 cts. cash, 27 in trade, for average wax delivered here. We expect to need 50 to 60 tons of wax the coming season, and can therefore use all the pure beeswax you can send us. For choice clean bright yellow we usually pay an extra cent or two.

THE PLAIN (NO-BEE-WAY) SECTIONS AND HOLDERS WITH FENCE, OR CLEATED SEPARATOR.

In another column you will find a description and illustration of the new plain section-holder with fence and plain section. These plain section-holders for the regular $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ plain section, which, when filled with honey in connection with the fence, hold a scant pound, are of stuff $\frac{1}{4}$ inch thick for ends and bottom, dovetailed at the corner, and $1\frac{1}{2}$ inches wide. They are $17\frac{1}{2}$ inches long, outside measure; and to use them in the regular super a piece $\frac{1}{8}$ thick at the bottom edge, and tapered to a sharp edge at the top, is nailed into the super ends, the tin strip projecting at least $\frac{1}{8}$ inch further in than this cleat. The bevelled cleat guides the plain section-holders into place, and they and the fence are supported on the tin strip.

The fence is made up of four slats lengthwise, and grooved and cross cleats, as shown, all put together with glue, in a machine specially constructed for the purpose. These fences will, of course, be made slightly different for use with various styles of surplus arrangements. For instance, the regular fence used with plain section-holder could not be used without alteration in the T super. It will also require changing slightly to be used with plain sections in the old-style slotted section-holder. Likewise the 4×5 section will require a somewhat different fence. In view of this it will be quite necessary, when you order the fences separately, to be very particular to designate for what style of surplus arrangement they are to be used. The price of the plain (no-bee-way) sections will be the same as any other style of the same size. The price of the plain section-holders will be \$1.00 per 100; and the double or single cleated fences we expect to supply at \$1.00 per 100, all put together. We will not furnish them not put together, as very few would have the facilities or skill to put them up properly, and compete with our automatic gluer. Our system of hive-numbering will remain the same as last season, with the idea of designating letters carried still further. The letter P for plain sections and holders, added to the hive number, will indicate that the super is to be fitted with plain section-holders and fences. The letter Q will indicate that the supers are to take 4×5 sections in plain section-holders with fences. R will indicate a super with rack as used by Miles Morton, and sections $3\frac{3}{4} \times 5$ with fence. S will indicate the old-style arrangement with slotted section-holders and separators. T will indicate the T-super arrangement for $4\frac{1}{4}$ plain sections and thumb-screws.

AD52P, AD52S, and AD52T will be the same price as hives listed in our catalog as AD52. That is, hives equipped with the new sections and fences will be the same price as the regular hives last season. AD52O and AD52R, having deep supers, will be 5 cents each extra. Such a hive two story, as AD52Q and AD52R, would be 10 cents each extra. Hives will be furnished with the staple-spaced thick-top frame instead of the Hoffman at the same price.

PATENTS PROCURED PROMPTLY

AT REASONABLE RATES

By J. A. OSBORNE & CO.,
PATENT LAWYERS,
579 The Arcade, CLEVELAND, O.
CALL OR WRITE. ADVICE FREE.

Christmas Present.

54 sq. inches "Mending Tissue" for binding or mending fine Silk and Dress Goods, Kid Gloves in a fourth the time of needle and thread.
 15 sq. inches fine Transparent Adhesive Paper for mending books, documents, bank bills, etc.
 9 sq. inches Best Medicated Court-plaster.
 25 sq. inches "Never Stick" to hold your postage stamps from sticking together.
ALL inclosed in neat LEATHERETTE pocket-case. Sent by mail to any address for **12C.**

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"THE KING"

Windwheels.

For Power or Pumping,
the Best in the World.

Six-foot wheels doing work usually done by 8-foot of any other make. Also best of galvanized towers to go with them.

Write for particulars to
C. O. WEIDMAN,
Medina, Ohio.
Mention this paper.

Wants and Exchange Department.

WANTED.—To exchange 140 colonies of bees, with all fixtures belonging to a first-class apiary, for good horses and mules.

ANTHONY OPP, Helena, Ark.

WANTED.—To exchange 65 volumes Scientific American, volumes 1, 2, 7, 8, 9, 15 to 33 inclusive, 36 to 71 inclusive, unbound, good condition, for bicycle, view camera, firearms, or offers.

J. E. HAMMOND, Oxford, Mass.

WANTED.—To exchange non-drip shipping-cases, in flat, without glass, at 6 cents each; also bee-hives, either in flat or made up, for white clover or buckwheat extracted honey.

J. M. KINZIE, Rochester, Oakland Co., Mich.

WANTED.—One saw-mill, feed and shingle mill.

W. S. AMMON, Reading, Pa.

WANTED.—To exchange a $1\frac{1}{2}$ -in. saw-mandrel 4 ft. long, 50-lb. balance-wheel, also 1 steam-pump (Knowles), $\frac{1}{2}$ -in. discharge, for larger pump or other machinery.

F. KROEGEL, Sebastian, Fla.

WANTED.—To exchange choice nursery stock, vegetable seeds (every variety), and hand wheel-hoe and cultivator, for extracted honey.

Golden Rule Nursery, Box 206, Hartford City, Ind.

WHAT will you offer for one b-flat cornet and case, also one e-flat alto, good instruments, practically new? Address Box 321, Clifton, New York.

CONVENTION NOTICE.

The next meeting of the Central California Beekeepers' Association is to be held at Selma, Wednesday, Dec. 1, 1897.

W. A. H. GILSTRAP.

Caruthers, Cal., Nov. 1.